



SOUTHERN RHODESIA

REPORT

of

The Public Health

For the Year 1939

Presented to the Legislative Assembly,

1941

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CONTENTS

	PAGE
CHAPTER I—VITAL STATISTICS	1
1. Population	1
2. Births	2
3. Deaths	2
4. Infant Mortality	3
5. Maternal Mortality	4
CHAPTER II—INFECTIOUS AND COMMUNICABLE DISEASES ..	4
1. Malaria and Blackwater Fever	5
2. Schistosomiasis	6
3. Smallpox	7
4. Diphtheria	7
5. Leprosy	7
6. Other Infectious Diseases	9
CHAPTER III—GENERAL	9
1. Native Dispensaries and Clinics	9
2. Native Labour on Mines	10
3. Schools Medical Service	12
4. Mental Disease	17
5. Government Dental Service	19
6. Health of the B.S.A. Police	19
7. Red Cross Society and St. John Ambulance Brigade	20
CHAPTER IV—HOSPITALS, DISTRICTS AND LABORATORIES ..	21
1. Hospitals and Districts	21
2. Laboratory Services	31
3. Public Health Laboratory and Pasteur Institute, Salisbury ..	31
4. Public Health Laboratory, Bulawayo	32
5. Government Analyst's Laboratory	34
CHAPTER V—ADMINISTRATIVE	39
1. Staff	39
2. Southern Rhodesia Nursing Service	39
3. Medical Council	39
TABLES	41-53

REPORT ON THE PUBLIC HEALTH FOR THE YEAR 1939

The Minister of Internal Affairs.

Sir,

I have the honour to submit the Public Health Department Annual Report for the year 1939, and regret that the amount of additional work flung upon the Department has delayed its completion until now.

The bulk of this Report has been prepared by Dr. E. Baker Jones, Assistant Health Officer of the Public Health Department, to whom I am indebted for very valuable assistance.

I have the honour to be,

Sir,

Your obedient servant,

ANDREW PATON MARTIN,

M.B., Ch.B., D.P.H.,

Medical Director.



Report on the Public Health for the Year 1939

CHAPTER I. VITAL STATISTICS

(1) POPULATION

The European population, at the 30th June, 1939, was estimated at 60,720, an increase of 1,850 over the 1938 figure. The Coloured population, including Asiatic peoples, was estimated at 5,840, being an increase of 170 over the previous year's figures. The Native population is considered to be 1,370,000, as compared with 1,311,000 last year, so that the total population of the Colony is estimated, at the 30th June, 1939, to be 1,436,560.

The vital statistics of the native population are still matters of conjecture rather than fact. Regardless of the dependence of this Colony in the past, and presumably in the future, on the native population for its economic progress, we neglect to audit our capital in this respect. Is the annual rate of natural increase (*i.e.*, excess of births over deaths) stationary, increasing or decreasing? In this connection, the following extract from the Report of the Chief Native Commissioner and Secretary for Native Affairs for the year 1938 is interesting: "An increase of 40,093 is shewn in the figures given, which are the sums of estimates furnished by the Native Commissioners. In many districts these are still chiefly based on the Tax Register, so that the aggregates cannot be regarded as accurate. The smallness of the estimated increase may, nevertheless, be an indication that the native population is not increasing so rapidly as is popularly believed."

The last-mentioned remark can be supported by various theoretical considerations. The recruitment of the fit members of the adult male population for labour away from their kraals may have some adverse effect on the birth rate in the kraals. For the same reason, the absence of these adult males may cause a decrease in agricultural produce in the kraals and consequent malnutrition. This is not believed to be significant because it is well known that there is a shortage of available native labour during the planting season, which is presumably due to the return to the kraals of a section of the adult male population. The separation of the adult males from their families increases the tendency to venereal infection with consequent decrease in fertility and increase in infant mortality. It may be argued against the former possibility that a native has grounds for divorce if his wife is barren and that proceedings taken in this connection are infrequent.

Contact with Europeans, herding in compounds, and underground work may cause a steady infiltration of tuberculosis into the kraals. Again here, it may be argued that the risk of contracting tuberculosis, underground or elsewhere, is a small one in Southern Rhodesia. In 1939, 57 cases of phthisis were reported among the average number of 83,683 natives employed in mines in this Colony.

We have therefore a train of circumstances which may provisionally be expected to lead to a decrease in the birth rate and an increase in the death rate and infant mortality of the native population. If these conditions exist, in fact, it would take years of organised hygiene and applied economy to remedy them, so the sooner we find out the facts the better. If this matter is deferred too long, we may find it impossible for many years to obtain sufficient native labour for industry and agriculture. This would necessitate an increased recruitment of labour from outside the Colony, which it might be impossible to obtain, or, alternatively, the employment of European labour, which would entail a complete revolution in our policy of colonisation, whether for better or worse one cannot predict.

The annual rate of natural increase per 1,000 of the European population, that is, the excess of births over deaths, shows a decrease to 13·8 as compared with 15·6 last year. This decrease is due mainly to a decrease in births, and, to a less extent, an increase in deaths.

The gross number of European immigrants was 3,281. A reliable estimate for net immigration figures cannot be made under present conditions.

(2) BIRTHS

In 1939 there were 1,433 European births as compared with 1,469 in 1938. This figure gives a birth rate of 23·6 per thousand. Included in the total of births are 27 illegitimate births, giving a proportion of illegitimate births of 1·85% of the total births as compared with 1·57% in 1938.

The birth rates of recent years are given below, and for comparative purposes the corresponding rates for the Union of South Africa and England and Wales are shown.

European Birth Rates, 1937-39

					1937	1938	1939
Southern Rhodesia	..	..	..	..	22·9	25·0	23·6
England and Wales	..	..	..	..	14·9	15·1	(a)
Union of South Africa	..	..	..	..	24·9	25·0	(a)

(a) Not available.

(3) DEATHS

(A) *Number of Deaths.* In 1939 there were 597 European deaths, giving a crude death rate of 9·8 per thousand, which is slightly higher than in 1938.

European Death Rates, 1937-39

Year					CRUDE DEATH RATE	STANDARDISED DEATH RATE		
					Southern Rhodesia	Southern Rhodesia	Union of South Africa	England and Wales
1937	..	..	..	..	9·4	9·5	9·7	9·3
1938	..	..	..	..	9·3	9·7	8·9	(a)
1939	..	..	..	..	9·8	10·3	(a)	(a)

(a) Not available.

(B) *Causes of European Deaths.* The following table gives the causes of European deaths in the last quinquennium. More detailed information is furnished in the table of deaths classified according to the International Classification of Deaths, to be found at the end of the report:—

Causes of European Deaths, 1935-39

	1939	1938	1937	1936	1935	Total	Percentage of Total Deaths
1. Cancer	72	50	54	52	46	274	9·73
2. Violence (all forms)	60	59	46	46	55	266	9·45
3. Heart diseases	87	83	77	81	69	397	14·09
4. Pneumonia and bronchitis ..	27	48	46	58	41	220	7·81
5. Malaria and blackwater fever	66	57	37	66	56	282	10·01
6. Nervous diseases	42	20	23	32	21	138	4·90
7. Premature birth and diseases of early infancy	32	30	36	33	29	160	5·68
8. Tuberculosis (all forms) ..	13	10	3	4	17	47	1·67
9. Influenza	8	14	25	9	30	86	3·05

(4) INFANT MORTALITY

In 1939 there were 65 deaths of European children under the age of one year as compared with 57 in 1938.

The infant mortality rate for 1939 is 45 per thousand live births.

The number of stillbirths amounted to 23, and these are not included in either births or deaths of infants stated below.

Tables giving the facts regarding infant mortality in the European community are set out below:—

European Infant Deaths

TABLE I. CAUSES OF DEATH, 1930-39

Disease	Number of Deaths	Percentage of Total
Premature birth and diseases of early infancy ..	286	48·07
Bronchitis and pneumonia	73	12·27
Diarrhoea and enteritis	66	11·09
Malaria	51	8·57
Measles, whooping cough, diphtheria, dysentery ..	35	5·88
Various, not classified above	84	14·12
Total	<u>595</u>	<u>100·00</u>

TABLE II. DEATHS DURING DIFFERENT MONTHS, 1930-39

	Number of Deaths	Percentage of Total
First month	311	52·27
Two months to six months	160	26·89
Six months to twelve months	124	20·84
Total	<u>595</u>	<u>100·00</u>

European Infant Mortality Rates, 1938 and 1939

	1938	1939
Southern Rhodesia	39	45
England and Wales	53	(a)
Union of South Africa	52	(a)

(a) Not available.

Causes of Infant Deaths, 1939

Disease	No. of Deaths
Measles	1
Whooping Cough	2
Influenza	1
Malaria	5
Other general diseases	2
Meningitis	1
Other diseases of the nervous system	1
Diseases of the ear and mastoid sinus	1
Valvular disease of the heart	1
Broncho-Pneumonia	5
Pneumonia, not otherwise defined	1
Other diseases of the respiratory system	1
Diarrhoea and enteritis	8
Congenital malformations	3
Congenital debility	1
Premature birth	17
Injury at birth	1
Other diseases peculiar to early infancy	11
Cause of death unstated or ill-defined	2
Total	<u>65</u>

(5) MATERNAL MORTALITY

During 1939, three mothers died as a result of childbirth, giving a maternal mortality rate of 2·1 per thousand live births. The improvement on previous rates which was first shewn last year, has therefore been maintained.

European Maternal Deaths, 1930-39

Cause of Death						Number of Deaths	Percentage of Total
Puerperal sepsis .. .. .	..	..	..	..	..	24	34·28
Accidents of pregnancy .. .. .	..	..	..	..	..	7	10·00
Other accidents of childbirth .. .. .	..	..	..	..	..	1	1·43
Puerperal haemorrhage .. .. .	..	..	..	..	..	8	11·43
Puerperal albuminuria and toxæmia .. .. .	..	..	..	..	..	14	20·00
Other causes .. .. .	..	..	..	..	..	16	22·86
Total .. .. .	..	..	..	..	..	70	100·00

European Maternal Deaths, 1937-39

						1937	1938	1939
Southern Rhodesia .. .. .	..	..	..	..	..	6·1	2·0	2·1
England and Wales .. .. .	..	..	..	..	..	3·3	(a)	(a)
Union of South Africa .. .. .	..	..	..	..	..	4·4	3·7	(a)

(a) Not available.

Maternity homes are subjected, in this Colony, to adequate supervision and inspection under the provisions of the Nursing Homes Registration Act. Sixteen such homes were on the register during 1939, of which 12 were conducted for maternity purposes only, and four for both maternity and general purposes.

The following is a short summary of the work carried out in the registered homes during the year:—

						Maternity	Maternity and General
Patients admitted .. .. .	..	..	..	..	..	1,091	1,523
Confinements .. .. .	..	..	..	..	..	1,006	42
Deaths of adults .. .. .	..	..	..	..	..	1	33
Deaths of infants .. .. .	..	..	..	..	..	15	1
Live births .. .. .	..	..	..	..	..	990	39
Still births .. .. .	..	..	..	..	..	16	3
Miscarriages .. .. .	..	..	..	..	..	7	7
Operations: Major .. .. .	..	..	..	..	..	27	81
Minor .. .. .	..	..	..	..	..	91	324

Of the total live births of European infants in 1939 (1,433), 1,029 (71·8 per cent.) took place in institutions under supervision and control, as compared with 67 per cent. in 1938.

CHAPTER II.* INFECTIOUS AND COMMUNICABLE DISEASES

The following table is compiled from the weekly bulletin of infectious diseases issued by the Department throughout the year. It is not claimed to be a full list of cases which occurred, even for the European population, since certification remains lax:—

Infectious Diseases Reported during the Calendar Year 1939

Disease	EUROPEAN		NATIVE		TOTAL	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Chicken Pox	335	—	181	—	516	—
Measles	6	—	9	—	15	—
Whooping cough	244	—	81	—	325	—
Typhoid	28	3	30	2	58	5
Mumps	316	—	70	—	386	—
Diphtheria	34	—	7	3	41	3
German Measles	22	—	—	—	22	—
Erysipelas	8	—	2	—	10	—
Cerebro-spinal meningitis ..	7	—	—	—	—	—
Scarlet fever	24	—	—	—	24	—
Acute Anterior poliomyelitis ..	—	—	2	—	2	—
Paratyphoid	—	—	—	—	—	—
Undulant or Malta fever ..	—	—	—	—	—	—
Anthrax	—	—	—	—	—	—
Puerperal septicaemia	—	—	—	—	—	—
Smallpox	1	—	222	1	223	1
Trypanosomiasis	—	—	—	—	—	—
Encephalitis lethargica	—	—	—	—	—	—

(1) MALARIA AND BLACKWATER FEVER

In 1939, among Europeans 49 deaths were registered as being due to malaria, and 17 due to blackwater fever, a total of 66 deaths as compared with 57 in 1938 and 37 in 1937. The following are the number of admissions into Government Hospitals for malaria and blackwater fever during the year 1939, and deaths therefrom:—

Malaria

				Europeans	Natives
Admissions .. .. .	..	..	..	1,480	1,749
Deaths .. .. .	..	..	..	23	79

Blackwater Fever

				Europeans	Natives
Admissions .. .. .	..	..	..	27	4
Deaths .. .. .	..	..	..	8	—

The heavy rains experienced for the first four months of 1939 created ideal conditions for anopheline breeding in certain areas where the soil conditions restricted quick drainage; the heavy rains alternated with fairly long periods of hot weather sufficient for metamorphosis to be completed, or where the dry weather following the cessation of the rains remained fairly warm. The malaria incidence in such areas was higher than usual, amounting in some places to an epidemic. The Native Reserves of Lower Gwelo, Que Que, Lundi, Belingwe, Tjlotjo, Gwaai and Gwampa, and the districts of Sinoia, Que Que, Gatooma, Hartley, Umvuma and Bulawayo, experienced a higher incidence of malaria than usual, other districts did not experience this, while in Salisbury and Umtali, the incidence was *lower* than usual. In the Victoria Falls area, where anopheline destruction is under the supervision of Dr. E. M. B. West, A.G.M.O., there was a record catch of *A. Gambiae* in March, 1939. The reason for this was the prolonged and steady rainfall during the year which caused seepage into an area which had not yet been brought under control.

Reports from many districts emphasise the lack of ordinary personal prophylaxis adopted by Europeans who still regard these preventable diseases as necessary evils to be dealt with as often and as much as occasion seems to them to demand, in spite of the comfort and relatively negligible expense incurred by personal prophylaxis. Whatever methods of public control are introduced in the future, there is no doubt that personal prophylaxis will always be necessary for persons living in scattered areas, travelling or camping. Those who fall sick and incur heavy medical expenses and even death through failing to adopt the simple and inexpensive measures which

this Department constantly urges, have only themselves to blame, but in the case of children, such failure on the part of their parents or guardians to protect them against this most serious and constant menace amounts to criminal neglect. During the decennium 1930-1939, 51 European infants, below one year of age, died of Malaria. This disease alone accounting for 8·57 per cent. of the total infant mortality. Over the period of 1919-1938, an average of 56·5 European infants in every 10,000 died from malaria, more than in any other age group, in spite of the fact that prophylaxis is easier at this age than any other. This is a sad reflection on the adaptability of Europeans to colonise Africa when consideration is given to the fact that the means of prevention have been in our hands for nearly half a century but are still ignored.

It is hoped in this respect that the efforts of the Medical Research Unit will not be misunderstood. Malaria cannot be abolished from the community purely by a group of experts. These can advise, but it is for the public to take this advice, otherwise all their efforts will be in vain.

(2) SCHISTOSOMIASIS (*Bilharziasis*)

Research into this problem is being conducted by the Medical Research Unit.

During the year 150 Europeans and 439 natives were treated in Government Hospitals for this disease, while the following figures show the results of laboratory examinations for Schistosomiasis during the year:—

Salisbury

				Europeans	Natives
(a) <i>Faeces</i> :	Specimens tested	..	..	342	2,163
	Showed schistosoma ova	..	..	153	490
(b) <i>Urines</i> :	Specimens tested	..	..	5,909	2,274
	Showed schistosoma ova	..	..	224	489

Bulawayo

(a) <i>Faeces</i> :	Specimens tested	..	..	..	776
	Showed schistosoma ova	..	..	..	1
(b) <i>Urines</i> :	Specimens tested	..	..	..	1,612
	Showed schistosoma ova	..	..	..	105

Gwelo Hospital

Specimens of urine and stool examined by native microscopist from January 1st to July 31st, 1939—745. Showed schistosoma ova, 149.

Umtali Hospital

				Europeans	Natives
Specimens of urine examined	..	..	..	269	757
Number showing <i>S. haematobium</i>	..	..	..	10	176
Specimens of stool examined	..	..	..	79	912
Number showing <i>S. mansoni</i>	..	..	..	4	47

Of the 1,356 specimens of urine and faeces found positive for schistosoma ova in the Salisbury Public Health Laboratory, 25 were infectious by *S. matthei*, the normal host of which is the sheep.

The above figures do not include all those cases of schistosomiasis treated outside hospital or by private practitioners or as a secondary illness overshadowed by some other complaint.

The figures given for schistosomiasis cases detected under the heading "Schools Medical Service" include one School, Daisyfield, in which 236 children furnished 49 cases of *S. haematobium* infection and 34 cases of *S. mansoni* infection.

A special investigation of this school was carried out by the Medical Inspector of Schools with a view to determining the source of the infections. This investigation was greatly facilitated by a rather interesting fact. The children, who are nearly all boarders, had christened their main rendezvous for bathing by an Afrikaans name, which in English means "Itch Pool," so called on account of an itching papular rash which the children associated with bathing in this spot. On inspection, this pool (at the time of the inspection it consisted of a series of pools) was found to contain great numbers of snail hosts of *S. haematobium* and *S. mansoni*. Teachers used to collect water-lilies there, and the children used to adopt the snails as pets!

Many children in this school, not so far proved to have schistosomiasis by the finding of ova in urine or stool, were, nevertheless, considered as a result of clinical haematological examination to be infected, and the incidence therefore to be higher than that shown from a single laboratory test.

Treatment of all proved cases, in the absence of preventive control, would obviously have been waste of time and money in this school.

(3) SMALLPOX

One European case and 222 native cases occurred during the year with the death of one native case, as compared with last year's figures of two European and 1,863 native cases with nine native deaths. The case rate per 100,000 of the population has therefore decreased to 15.5 this year as compared with 135 last year, and the virulence shows no significant change from its previous mildness.

An epidemic occurred in the Sinoia district in September, spreading from the Urungwe district as far South as Darwendale. In one farm, belonging to a destitute European squatter, no less than 27 cases were found, none of which had been notified. Sporadic cases occurred during the year in the Mandero Reserve (Hartley), Chiduku Reserve (Rusapi), Mutambara Reserve (Melssetter), Lalapanzi, Gatooma district, Shabani district Lundi Reserve, Umvuma and Gutu.

All possible measures were taken to deal with outbreaks by isolation of cases, vaccination and quarantine of contacts, picketing of infected areas, and generalised vaccination of the natives in epidemic zones with the aid of the Native Department and the B.S.A. Police.

It is probable that sporadic cases will continue to occur until systematic, regular vaccination of the whole native population is adopted, although the vaccinations performed as a result of the epidemics of the past two years have already had a decided effect in reducing the case rate, as predicted in previous reports, which showed, by statistical comparison, that if the vaccination rate drops below about 70 per 1,000 of the population, a rise in number of smallpox cases can be anticipated.

(4) DIPHTHERIA

Thirty-four cases of diphtheria in Europeans were notified during the year, as compared with 53 last year. Notification is incomplete as proved by the fact that whereas no deaths from diphtheria among Europeans were notified during the year, four European deaths from this disease were certified to the Registrar of Births and Deaths.

A scheme for free sick-testing and immunisation against diphtheria of all children attending Government and Government-aided schools was instituted towards the end of the year. Full figures are not yet available, but it appears that on the whole, parents took full advantage of this opportunity to protect their children against a dangerous preventable disease, and there is reason to expect the incidence to fall as a result of this organised, country-wide attempt at prevention.

(5) LEPROSY

The following table shows the numbers dealt with at the four Leprosy Institutions in the Colony:—

LEPROSY—NUMBERS TREATED

Hospital	ON REGISTER AT BEGINNING OF YEAR			ADMITTED			DISCHARGED OR DEAD OR DESERTED			ON REGISTER AT END OF YEAR			TOTAL CASES TREATED		
	1937	1938	1939	1937	1938	1939	1937	1938	1939	1937	1938	1939	1937	1938	1939
Ngomahuru ..	407	458	491	179	128	97	128	96	203	458	490	396	586	586	599
Mtemwa ..	283	284	346	141	155	95	140	136	77	284	377	429	424	439	506
Mnene .	38	40	46	10	11	2	8	5	6	40	46	44	48	51	50
Mt. Silinda ..	5	7	4	3	3	1	1	6	2	7	4	3	8	10	5
GRAND TOTALS	733	789	887	333	297	195	277	243	288	789	917	872	1,066	1,086	1,160

Dr. Moiser, the Government Leprologist, reports as follows:--

"Treatment: Burroughs Wellcome's 'Moogrol' has proved so effective in the past that it has not been considered advisable to make any change, and it is now employed almost exclusively.

"Professor Pierre Berrange of Paris kindly donated a supply of his emulsion B55, which is given intravenously, and this is being tried on two native male patients, one lepromatous, the other neural, but the result so far has not been encouraging, especially as the preparation is very prone to cause reaction.

"Results of Treatment: At Ngomahuru, during the year 1939, 294 patients received regular treatment. Of these, 258 were improved, 18 were stationary, 18 were worse. Of the 258 improved, 170 were discharged with the disease arrested, a percentage of 57·8 of the total 294 patients treated.

"Intestinal Parasites: On admission, every patient is examined by the flotation method. The results are: Number examined, 114, Ankylostome 9, Ascaris 2, Schistosoma 1, Amoebae 1, Taenia 1; parasites are eliminated before anti-leprosy treatment is commenced.

"Visit of Dr. Ernest Muir: We were fortunate in having a visit paid to Mtemwa and Ngomahuru by Dr. Muir, the eminent leprologist, who was completing his tour of Africa, which started in 1938. Dr. Muir noted particularly—

- "(1) The large proportion of lepromatous cases, a condition he had also found in Nyasaland.*
- "(2) The mild type of the lepromatous cases and the absence of lepra reaction.*
- "(3) The uncommonness of trophic ulcers.*
- "(4) The small proportion of child lepers, an acknowledged sign of low virulence of leprosy.*
- "(5) The large number of definite tuberculoid lesions."*

Dr. Moiser mentions that Dr. Muir agrees that Ngomahuru is a very suitable place to establish a leprosarium for British patients, since it has the advantages of a particularly suitable climate, and availability of grounds for occupational exercise and agriculture, which implies a good diet.

(6) OTHER INFECTIOUS DISEASES

Epidemics of mumps, whooping-cough and chicken-pox occurred among the school population during the year. Some of these epidemics could be traced to laxity of certain parents who sent their children back to school at the beginning of term with a certificate stating that they had not been exposed during the holidays to any infectious disease, whereas it was discovered that these children had come directly from homes in which cases of infectious disease existed. To counteract this irresponsible attitude, new regulations were drafted under the Public Health Act, providing a prescribed form of health certificate containing a warning at the foot which draws attention to the penalties for omitting to send, or falsifying, the health certificate. These regulations have since been gazetted.

Other infectious diseases show no significant change from previous years.

CHAPTER III

(1) NATIVE DISPENSARIES AND CLINICS

The total number of Government clinics in the Colony increased during the year from 46 to 48. The two new clinics opened during the year are Arrowan and Rosa. Four more new clinics will be opened early in 1940 at Stanely, Nyamaruri, Darwendale and Buhera.

The number of inpatients treated in Government clinics amounted to 26,998, an increase of 863 upon the previous year; the number of outpatients amounted to 69,728, which is an increase of 15,763 on the previous year. The number of outpatient treatments (excluding Ndanga unit, for which figures are not available) was 192,679, an increase of 5,812 on the previous year.

The estimates this year provide for six new large clinics at Banket, Norton, Belingwe, Selukwe (V.D. clinic), Birchenough Bridge, and Essexvale, and three smaller clinics at Makota, Mandoro and Maranha Reserves. In addition, improvements and enlargements of existing clinics will continue.

Apart from 48 Government clinics and 14 Government Native Hospitals, all of which afford medical treatment to natives, there are 34 Missions performing medical work among natives. These do not include hospitals and clinics provided by the Mines, Municipalities, and the Lees Memorial Trustees.

A detailed list of Government and Mission centres for medical treatment of natives, together with the work performed therein during the year, will be found at the end of this report.

The value of the outlying native clinics does not lie purely in the curative aspect. These serve as a nucleus for health propaganda throughout the remote districts in which they are placed. Slowly but surely the native will be weaned from his backward, superstitious outlook on disease and will gradually place more and more trust in logical methods of cure and prevention through the obvious benefits demonstrated thereby to his own eyes. The necessity of improving the health of the natives in the reserves has been mentioned earlier in this report under the heading "Vital Statistics." This is a matter which, apart from the humanitarian aspect, will have a far-reaching effect on the health and wealth of the European. Money provided for this purpose should not, therefore, be considered as expense but as invested capital.

(2) NATIVE LABOUR ON MINES

Comparative Statement of Mortality, 1935-1939.

	Twelve Months Ended November				
	1935	1936	1937	1938	1939
Average number employed ..	75,173	83,619	90,278	88,421	83,683
<i>Disease:</i>					
Number of deaths	851	829	827	897	664
Death rate per mille	11·32	9·91	9·16	10·14	7·93
<i>Accidents:</i>					
Number of deaths	194	180	175	154	160
Death rate per mille	2·58	2·15	1·94	1·74	1·91
<i>All Causes:</i>					
Number of deaths	1,045	1,009	1,002	1,051	824
Death rate per mille	13·90	12·06	11·10	11·88	9·84

Rates of Deaths from Disease

Death Rate per 1,000 Employed	Twelve Months Ended November				
	1935	1936	1937	1938	1939
Pneumonia	5·41	5·03	4·70	5·13	2·91
Other diseases	5·91	4·88	4·46	5·01	5·02
Total disease death rate ..	11·32	9·91	9·16	10·14	7·93

Sickness, Deaths and Death Rates

					Twelve Months Ended November, 1939		
Disease					Number of Cases	Number of Deaths	Death Rate per Mille per Annum
Malaria .. .. .	..	..	..	..	6,913	42	0·50
Scurvy .. .. .	..	..	..	..	209	2	0·02
Syphilis .. .. .	..	..	..	..	1,589	29	0·35
Pneumonia .. .. .	..	..	..	..	1,841	244	2·91
Phthisis (consumption)	..	..	..	..	57	45	0·54
Other diseases of chest	..	..	..	..	920	20	0·24
Dysentery and diarrhoea	..	..	..	..	998	20	0·24
Other intestinal diseases	..	..	..	..	182	34	0·41
Heart diseases .. .. .	..	..	..	..	74	43	0·51
Debility .. .. .	..	..	..	..	322	7	0·08
Influenza .. .. .	..	..	..	..	7,155	20	0·24
Other diseases .. .. .	..	..	..	..	2,629	158	1·89
Minor ailments .. .. .	..	..	..	..	17,297	—	—
Total					<u>40,186</u>	<u>664</u>	<u>7·93</u>

Accidents and Injuries:

Major .. .. .	..	..	..	..	404	160	1·91
Minor .. .. .	..	..	..	..	14,183	—	—
Total, all cases					<u>54,773</u>	<u>824</u>	<u>9·94</u>

The death rate per mille, 9·84, as compared with 11·86 in 1938, is the lowest on record. It may be attributed to the considerable decrease in deaths from pneumonia (244 deaths in 1939 with a death rate of 2·91 per mille as compared with 453 in 1938, with a death rate of 5·13 per mille), which is the lowest death rate on record for this disease. The case mortality rate of the 1,841 cases reported this year is 13·25% as compared to 20·45% in 1938 among 2,215 cases. The number of cases has thus decreased by 16·9%, while the case mortality drop from 20·45% to 13·25% represents a decrease of 35·21% in case mortality. The probable explanation of this considerable decrease in case mortality of pneumonia is the increased use of the drug M & B 693, which is reported on favourably by most of the Government Medical Officers, especially those who attend native labourers on the mines.

There is an appreciable decrease in the incidence and case mortality of scurvy, 209 cases with two deaths, and a death rate of ·02 per mille being reported in 1939 as compared with 358 cases with eight deaths and a death rate per mille of ·09 in 1938; but since every case of scurvy detected represents a condition of sub-clinical scurvy among practically all the natives in the area where the case was found, it is obvious that methods of feeding employees still fall far short of satisfactory. Whatever excuse for this state of affairs may be advanced by employers, it reflects bad management and unsound finance. The improvement in efficiency of native labour produced by providing a balanced diet has been experienced time and again in various parts of Africa (as reported by the Economic Advisory Council's Committee on Nutrition in the Colonial Empire), and the benefits of this increased efficiency have not only been to balance the cost of extra rations but to improve the financial turnover out of all proportion to the initial outlay. The employer who fails to appreciate the financial soundness of providing a well-balanced diet for his employees is adopting the same principle as the motorist who attempts to economise by using inferior fuel and insufficient oil.

There was a general increase in the incidence of malaria but a lower case mortality than last year.

Accidents and diseases, apart from those already mentioned, maintain a position similar to last year.

(3) SCHOOLS MEDICAL SERVICE

The Schools Medical Officers report as follows:—

Routine inspections were carried out in Government and Government Aided European and Coloured and Indian Schools in the Colony this year by the two Schools Medical Officers.

The number of schools at which routine inspections were made was 87 and the number of children examined was, European 4,809, coloured and Indian 465, making a total of 5,274.

One Schools Medical Officer was absent on vacation leave during the third term of the year. Moreover, the Schools Medical Officer remaining on duty was engaged during this time on work connected with the military forces, which accounts for the number of children examined being smaller than in 1938.

In addition to the routine examinations an effort was made to follow up cases where recommendations for treatment were made at the previous inspections. Follow-ups were made in the case of 500 European children of whom 353 or 70·6% were found to have carried out the advice given.

In the coloured schools out of 16 children, 14 or 87·5% had obtained the treatment that was recommended.

Parents: Parents received written invitations to be present at inspections except in the case of boarders where the school matron takes the place of the parent.

In the European schools 1,762 of the children examined were boarders, and 1,045 parents attended during the examination of day-scholars, giving a percentage of 34·29. In the coloured schools, out of 465 children 198 were boarders. Parents attending the examination of day-scholars numbered 22 or 8·24%.

Vaccinations: The numbers of unvaccinated children found at medical inspections were 377 European (7·83%) and 82 coloured and Indian (17·63%). With few exceptions children were vaccinated by the School Medical Officers or by the Government Medical Officers.

Nutrition: The figures obtained for nutrition correspond very closely with those given last year, the only difference being a slight improvement among coloured and Indian children. In spite of this improvement, however, the condition of coloured and Indian children cannot be regarded as satisfactory, 31·48% being classed as below normal in contrast to 18·25% among the Europeans who fall into this category.

Skin Diseases are considerably higher among the coloured and Indian children than among the Europeans as are also those conditions classed under defective vision as “other conditions,” which include conjunctivitis, blepharitis, corneal ulcer, etc. The higher incidence in both cases, and probably also in “functional heart murmur” and in carious teeth, is associated with the greater poverty of the coloured community.

An analysis of 159 cases of skin disease in Europeans shows the largest group to be acne (22·01%), followed by pediculosis capitis (15·09%), impetigo (8·80%), scabies (8·80%), ring-worm (6·91%), veld-sores (5·03%), eczema (3·14%).

Defective Vision: Treatment of this defect is now undertaken by the School Medical Department. Indigent cases are examined free of charge and glasses are supplied by the Government. Others are examined at a reduced rate of 5s., and glasses for these are supplied at a reduced rate of 25s. The popularity of this scheme is evidenced by the increased numbers of applications from parents who wish to take advantage of it (109 as against 62 in 1938).

An analysis of the defects found is given in the following table and also an analysis of glasses worn by 209 children who had already received treatment when they came up for examination.

The number of cases for whom glasses were prescribed was 65. The remaining 34 consisted for the most part of mild cases of hypermetropia, a condition which in children is likely to improve without the aid of glasses.

	CHILDREN EXAMINED 1939		Children Already Wearing Glasses	Total	Per- centage
		Glasses prescribed			
Myopia	15	15	88	103	37·59
Myopia and astigmatism	18	18	20	38	13·50
Hypermetropia	50	9	38	47	17·15
Hypermetropia with astigmatism ..	20	17	57	74	27·00
Mixed astigmatism	6	6	6	12	4·74
Total	109	65	209	274	99·98

Enlarged Tonsils: The number of children who have their tonsils removed remains high. Of the children examined 22·37% had already undergone an operation for tonsillectomy. At certain ages (5 to 8 years) there is a physiological enlargement of the tonsil consequent upon rapid growth, and also the meeting of a greater amount of infection in the school than has been encountered in the home, which calls upon the protective activity of the body to put up a defence to these new infections. During the next few years the tonsils tend to subside and at puberty there is a normal shrinkage of such structures.

Taking these facts into consideration it is found that although 10·47% of the children examined had large tonsils it was considered necessary to advise removal in only 1·64%. The usual indications for removal were repeated attacks of tonsillitis, quinzy or association with defective hearing and gross nasal obstruction.

Nervous Diseases: Under this heading are 67 cases which showed evidence of emotional instability. Of these 25 or 37·31% were cases of enuresis or bed-wetting, and others included nervous vomiting, inco-ordinated muscular movements, habit spasms, tics, migraine, hysterical fits, anxiety symptoms, night-terrors, etc.

Pamphlets dealing with the treatment of some of the more common nervous disorders have been prepared and are distributed to parents and teachers.

Postural Defects: There is a distinct improvement this year in the number of postural defects found, 4·80% as against 6·27 in 1938. The better understanding of this condition is shewn in the greater interest that is being taken in it in the larger schools where early departures from the normal are being increasingly recognised and treated appropriately. In schools where no qualified physical instructor is available, pamphlets giving detailed instructions for remedial exercises are distributed by the Schools Medical Officers.

Mental Defects: The number of children referred by teachers for special examination was 42. Of these 16 were classified as feeble-minded, 19 as dull and backward and seven as being of normal intelligence, but showing various types of behaviour problem. The test that is now being used is the new revised Stanford-Binet Test.

Bilharzia Survey: In 1938 a survey of one age-group (12+) was carried out, the results of which shewed that 6% of the children examined were infected with the urinary form of bilharzia, *B. haematobium*, and 4% with the intestinal form, *B. mansoni*.

It was hoped during 1939 to extend this survey so as to include every child who came up for routine medical inspection. It was found, however, that this involved more work than the Public Health Laboratory was equipped to undertake, so that an examination of the specimens furnished by children who were seen by the Medical Inspectors of Schools during the first term occupied the entire year.

The schools visited during the first term were in the Salisbury and Gwelo areas and these therefore are the only parts of the country which are included in this year's survey.

The examination was carried out on children of all ages in 19 schools. There were 953 cases in which specimens of both urine and faeces were submitted for examination.

On 953 specimens of urine 64 were infected with *B. haematobium*, and of 953 specimens of faeces, 38 were infected with *B. mansoni* and two with *B. haematobium*. Among these cases nine children had double infections with both *B. mansoni* and *B. haematobium*.

In addition to the 953 children who sent two specimens there were 93 who sent a specimen of urine only, among which were three cases of *B. haematobium*, and 24 who sent a specimen of faeces only, of which none were infected.

These 117 children giving a percentage of 2·56 positive cases or 3·22 positive urines are not included among the 953 children who sent two specimens because there is no guarantee that had they also sent two specimens a further number might not have been found to be infected.

Of the 953 children who were completely examined 64 specimens of urine and two of faeces were infected with *B. haematobium*, giving a percentage of 6·92, and 38 specimens of faeces were infected with *B. mansoni* giving a percentage of 3·98.

These figures cannot, however, be taken as a fair estimate of the ordinary school population because they include one school which was heavily infected in which 236 children furnished 49 cases of *B. haematobium* infection and 34 cases of *B. mansoni* infection. If these children are excluded we are left with 717 children in 18 schools who furnished 16 cases of *B. haematobium* infection (2·27%) and four cases of *B. mansoni* infection (0·55%).

It was expected that when the whole school population was examined the percentage of infected cases would be lower than when the 12+ age-group was examined because children below 12 have not reached the stage when they roam the countryside in groups and become exposed to infection. A second reason for expecting a lower percentage this year is the fact that most of the cases discovered last year have received adequate medical treatment.

Other Parasites: While testing the stools for bilharzia the presence of ova of other parasites was noted as follows:—

Hookworm	8
<i>E. vermicularis</i> (threadworms)	16
<i>Taenia</i> spp. (tapeworms)	7

Malaria: The incidence of malaria still remains high. Among 4,809 European children examined 127 or 2·64% were found to have enlarged spleens. The incidence is higher among the coloured and Indian section, among whom 7% had enlarged spleens.

Enlarged spleens are generally assumed to be evidence of chronic malarial infection although infection with *B. mansoni* may also produce slight enlargement.

Of the 953 cases which were examined for bilharzia, 33 were found to have enlarged spleens but only in four cases was this shewn to be associated with *B. mansoni* infection. In these four cases, moreover, malaria could not be excluded so it cannot be assumed that *B. mansoni* was the cause of the enlarged spleen.

No reliable test for the presence of malaria as a routine measure in school inspections is available since the parasites are rarely seen in blood smears except during an acute infection.

During this year 1,860 blood smears were examined for the presence of malaria parasites. Only three of these were positive, although there were 104 enlarged spleens in the series.

Pamphlets: Pamphlets on the prevention of bilharzia, hookworm and malaria and on the proper use of mosquito-nets are distributed to parents and teachers from this Department.

Special Investigation: Special investigations were carried out in certain schools this year in order to determine the origin of particular defects which shewed an abnormally high incidence, with a view to their prevention. These form the subject of separate reports as also do other special investigations, which include the relation of eosinophilia to schistosomiasis, a survey of the dietaries of school boarders and a survey of the haemoglobin indices of European and coloured school-children by Newcomer's method.

FINDINGS OF MEDICAL INSPECTION, 1939

Schools: European	CHILDREN BORN IN					Specials	Total	Per cent.
	Group 1 Entrants	Group 2 1930	Group 3 1927	Group 4 1925	Group 5 1923			
<i>Number Examined</i>	1,185	832	861	852	474	605	4,809	—
DEFECTS FOUND:								
<i>Skin Disease</i>	39	24	17	22	31	26	159	3·30
<i>Defective Vision:</i>								
(1) Requiring Treatment ..	19	20	28	32	28	39	166	3·45
(2) For Observation ..	2	4	7	5	—	3	21	0·43
(3) Treatment Obtained ..	21	20	37	66	60	51	255	5·30
Squint	8	15	7	6	3	10	49	1·00
Other Eye Conditions ..	11	4	11	9	4	4	43	0·89
<i>Defective Hearing:</i>								
(1) History of Otitis Media	5	1	1	5	3	3	18	0·37
(2) Adenoids	1	1	2	2	1	1	8	0·10
(3) Other Causes	9	6	4	11	2	9	41	0·85
Active Otitis Media	4	1	3	2	1	3	14	0·29
<i>Tonsils and Adenoids:</i>								
(1) Enlarged	131	70	82	55	16	23	377	7·83
(2) Removal Advised ..	15	10	9	16	4	25	79	1·64
(3) Removed Previously ..	220	190	222	138	156	102	1,028	22·37
<i>Teeth:</i>								
(1 tooth or more shewing gross caries)	235	132	83	40	28	77	595	12·37
<i>Heart:</i>								
<i>Organic Disease:</i>								
(1) Rheumatic	3	2	3	1	—	2	11	0·22
(1) Other Causes	4	4	3	2	5	12	30	0·62
<i>Functional Disease:</i>								
(1) Murmurs	19	13	9	5	5	8	59	1·22
(2) Arrhythmia	7	1	1	—	1	—	10	0·20
(3) Anaemia	2	2	3	1	3	2	13	0·27
<i>Lungs:</i>								
(1) Bronchitis	18	8	3	1	3	3	36	0·74
(2) Asthma	3	4	4	2	—	2	15	0·31
<i>Postural Defects</i>	39	26	41	53	30	42	231	4·80
<i>Deformities</i>	10	6	7	6	3	10	42	0·87
<i>Enlarged Spleen</i>	32	28	13	21	9	24	127	2·64
<i>Nervous Disease</i>	19	16	12	9	1	10	67	1·37
<i>Speech</i>	—	5	2	3	5	6	21	0·43
<i>Other Conditions</i>	33	17	27	26	17	25	145	3·01
<i>Number Examined for Nutrition:</i>								
Excellent A	157	111	158	179	143	121	869	18·07
Normal B	823	551	546	531	275	336	3,062	63·67
Sub-normal C	151	125	120	101	38	98	633	13·16
Bad D	54	45	37	41	18	50	245	5·09

FINDINGS OF MEDICAL INSPECTION, 1939

Schools: Coloured and Indian	CHILDREN BORN IN					Specials	Total	Per cent.
	Group 1 Entrants	Group 2 1930	Group 3 1927	Group 4 1925	Group 5 1923			
<i>Number Examined</i>	165	94	75	65	31	35	465	—
DEFECTS FOUND:								
<i>Skin Disease</i>	22	14	10	4	—	3	53	11·39
<i>Defective Vision:</i>								
(1) Requiring Treatment ..	—	1	3	2	—	1	7	1·50
(2) For Observation ..	—	—	1	—	—	—	1	0·21
(3) Treatment Obtained ..	—	—	—	2	2	—	4	0·86
Squint	—	—	—	—	—	—	—	—
Other Eye Conditions ..	3	—	1	2	—	1	7	1·50
<i>Defective Hearing:</i>								
(1) History of Otitis Media	—	—	—	—	1	—	1	0·21
(2) Adenoids	—	—	—	—	—	—	—	—
(3) Other Causes	—	2	—	—	—	—	2	0·43
Active Otitis Media	—	—	—	1	—	—	1	0·21
<i>Tonsils and Adenoids:</i>								
(1) Enlarged	15	7	4	4	2	—	32	6·88
(2) Removal Advised ..	1	—	—	—	—	—	1	0·21
(3) Removed Previously ..	4	1	2	7	1	3	18	3·87
<i>Teeth:</i>								
(1 or more teeth shewing gross caries)	45	22	8	7	1	8	91	19·54
<i>Heart:</i>								
<i>Organic Disease:</i>								
(1) Rheumatic	—	—	—	—	—	—	—	—
(2) Other Causes	2	—	—	—	1	—	3	0·64
<i>Functional Disease:</i>								
(1) Murmurs	7	1	2	1	1	1	13	2·79
(2) Arrhythmia	1	—	—	—	—	—	1	0·21
(3) Anaemia	1	—	—	—	—	—	1	0·21
<i>Lungs:</i>								
(1) Bronchitis	1	1	1	—	—	—	3	0·64
(2) Asthma	—	—	—	—	—	—	—	—
<i>Postural Defects</i>	2	3	—	3	1	1	10	2·15
<i>Deformities</i>	3	1	1	—	—	1	6	1·28
<i>Enlarged Spleen</i>	14	8	1	5	2	3	33	7·09
<i>Nervous Diseases</i>	—	—	—	—	—	—	—	—
<i>Mentally Retarded</i>	—	—	—	—	—	—	—	—
<i>Speech</i>	—	1	1	—	—	—	2	0·43
<i>Other Conditions</i>	6	1	1	3	—	6	17	3·65
<i>Number Examined for Nutrition:</i>								
Excellent A	8	6	3	10	7	3	37	7·95
Normal B	103	49	57	41	21	11	282	60·64
Sub-normal C	40	25	7	11	3	8	94	20·20
Bad D	14	14	8	3	—	13	52	11·18

(4) MENTAL DISEASE

Dr. Rodger, the Medical Superintendent, Ingutsheni Mental Hospital, reports as follows:—

On the 1st January, 1939, there were 419 patients on the register, a decrease of 59 as compared with the corresponding date of the previous year. On the 31st December, 1939, there were 401 patients remaining on the register, a decrease of 18 in the year.

Discharges: During the year 175 patients were discharged; 158 of these were recovered, being 51 Europeans, and 107 natives. The remaining eleven Europeans and six natives were discharged unrecovered. The recovery rate, calculated on the total number of admissions was 64·2%, European recoveries being 63·75% and native recoveries 64·45%.

Voluntary Patients: Thirty-six voluntary patients were admitted during the year. Thirty voluntary patients were discharged recovered, one improved and five not improved, three remain of whom two are on probation leave. This is a vast improvement on last year when only 13 voluntary patients were admitted, and is, I think, indicative of a more enlightened attitude towards mental disease by the general public.

Death: Nine Europeans and 58 non-Europeans died at Ingutsheni during 1939. The death rate, calculated on the number of patients treated, was 10·07%, the rate for Europeans being 4·75% and for natives 12·1%.

Repatriations: During the year 32 recovered alien patients were repatriated.

Probation: Of the 17 patients who had not completed probation at the end of 1938, eleven recovered, one was discharged unrecovered, three had probation extended and two returned to hospital.

Probation was granted in 32 cases during 1939. Twelve have now been discharged, three have returned to hospital and 17 have not yet completed their probationary period.

Health: The health of the European section of the Hospital has been good.

Occupation and Amusements: Occupation is being maintained at a steady level. Amusement has been, if anything, better than in previous years, many of the patients have taken an active interest in outdoor sports such as cricket, etc. The billiard table is in constant demand, and is a continual source of recreation for patients. The bioscopes are well attended and much appreciated. The State Lottery Trustees have authorised the purchase of a new and more up-to-date talkie machine; this has been ordered and should be installed in the next few weeks.

Mental Hospital Board: The Board continues to meet regularly and discharges its functions satisfactorily. The members shew a keen interest in the organisation of the Hospital and the welfare of the patients, and offer many helpful suggestions.

Additions, Alterations and Improvements: The Old Nurses' Home has been adapted for use as an Admission Hospital for female Europeans. The female European ward is now divided into three small wards and the improved classification has made life much more comfortable for the patients. One division is "open," i.e., the doors are open from morning until evening, and the patients have full use of the grounds without restraint of any sort.

Divine Service: As in previous years the clergy of Bulawayo have continued to visit the Hospital and divine services have been held frequently by the various religious denominations.

Parole: Seven European females, 35 European males and seven natives have been on parole.

Staff: I wish to place on record my appreciation and thanks to the Officers and Staff of the Hospital for their assistance and co-operation during the past year.

Acknowledgments: The cinemas in the town continue to extend their hospitality to suitable patients and the African Consolidated Films, Ltd., supply films for entertainment at Ingutsheni at reduced rates.

Members of the Sons of England Society and Toc H visit the patients regularly and the Jewish Ladies' Society and Rovers' Concert Party continue to supply entertainments. On each occasion that the Good Companions have staged a pantomime a *cart blanche* invitation has been extended to the patients.

The Rhodesian Printing & Publishing Company continue to supply newspapers.

The Hospital has reason to be grateful to the Hon. Surgeon and other honorary specialists whose help is at all times promptly and ungrudgingly given to the patients.

On behalf of the patients I extend most sincere thanks to all the above for their kindness.

Cardiazol and Azoman Therapy: Cardiazol therapy continues to give excellent results. It has been employed during the past year in the treatment of involutional depression, a condition hitherto considered hopeless, and as a result a number of cases have recovered and returned to their normal occupations.

INGUTSHENI MENTAL HOSPITAL

Return Showing Admissions to Hospital, 1939

Patients	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
European ..	3	12	7	9	9	7	4	5	6	5	7	6	80
Native — other than V.D. ..	13	15	13	11	17	16	23	17	14	9	7	11	166
Totals ..	16	27	20	20	26	23	27	22	20	14	14	17	246

Return of Inpatients Treated in Hospital, 1939

Patients	No. of Patients Remaining in Hospital from Previous Year	Total Admissions (as above)	Total Cases Treated	Total Deaths
European	109	80	189	9
Native — other than V.D.	310	166	476	58
Native V.D.	—	—	—	—
Totals ..	419	246	665	67

No. of Units Maintained	Staff	Patients	Total
European	7,429	36,648	44,077
Native	12,345	114,504	126,849
	<u>19,774</u>	<u>151,152</u>	<u>170,926</u>

Item	European	Native and Coloured	Total
No. of Staff—Nursing ..	20	32	52
No. of Staff—other	7	3	10
*No. of Beds	105	224	329
Daily Average of Patients Treated	100·4	313·7	414·1
No. of Outpatients Attendances	—	—	—
No. of Free Patients Maintained	116	418	534
No. of Free Patients Units ..	26,610	100,415	127,025

* NOTE: Means number of beds for which hospital was built, not necessarily actual number of beds in use.

(5) GOVERNMENT DENTAL SERVICE

The Government now employs three full-time Dental Surgeons.

A summary of the work performed by this section is detailed hereunder:—

Dental Treatment, B.S.A.P.

				Salisbury	Gwelo	Bulawayo
No. of Fillings	..	..	..	176	28	234
No. of Extractions	..	..	..	96	3	120
No. of Scalings	..	..	..	—	22	62
Other Operations	..	..	..	314	—	66
Dentures Supplied	..	..	..	36	—	35
No. of Dentures Repaired	..	..	..	7	—	8
No. of Splints	..	..	..	—	—	1

School Dental Service

			Salisbury Division	Gwelo Division	Bulawayo Division
No. of Children Examined	..	..	3,062	1,498	3,840
No. of Children Treated	..	..	565	215	261
No. of Fillings:					
Temporary Teeth	..	..	85	42	34
Permanent Teeth	..	..	855	324	355
No. of Extractions:					
Temporary Teeth	..	..	628	240	138
Permanent Teeth	..	..	106	30	25
No. of other Operations	..	..	9	—	4
No. of Scalings	..	..	22	2	—

Indigent Europeans and Natives

			Salisbury Division	Gwelo Division	Bulawayo Division
No. of Extractions	..	..	841	26	1,091
No. of Fillings	..	..	71	—	58
No. of Scalings	..	..	—	—	6
No. of other Operations	..	..	178	4	15
No. of Dentures Supplied	..	..	29	—	60
No. of Dentures Repaired	..	..	—	—	8

NOTE: Senior Government Dental Surgeon on leave from July to December, 1939.

(6) HEALTH OF THE B.S.A. POLICE, 1939

European: The number of cases of illness and injury decreased by 39 from 1,048 in 1938 to 1,009 during the year under review, with a substantial diminution in days lost of 1,424.

The average number of days lost per case (light duty being counted as half a day) was 7·13 as against 8·21. No duty accounted for 5,741 days and light duty 2,907; the 1938 figures being 6,656 days and 3,924 days respectively.

Malaria and blackwater fever accounted for 973 days' no duty and 230 days' light duty. This means (light duty being counted as half a day) that 15·12 per cent. of the number of days lost was on account of these two diseases alone, while all preventable diseases (malaria, blackwater, schistosomiasis, enteric fever, gonorrhoea and syphilis) accounted for 1,106 days' no duty and 250 days' light duty, which is 17·11 per cent. of the total number of days lost.

Three cases of gonorrhoea and one of syphilis were treated.

There were three deaths during the year, one of these was caused by a gunshot wound, one by a fractured skull, and one as a result of acute nephritis superimposed on diabetes. Six members were discharged as medically unfit.

Native: The number of cases of illness and injury increased by 64, but the average number of days lost per case decreased slightly from 6·85 in 1938 to 6·24 during the year under review.

The number of cases of gonorrhoea increased to 33 as compared to 19 in 1938 while 49 cases of syphilis were treated as compared with 43 cases in 1938.

Malaria accounted for 1,996 days' no duty and 613 light duty, which is 23·78 per cent. of all days lost. Preventable diseases (malaria, schistosomiasis, gonorrhoea and syphilis) accounted for 4,693 days' no duty and 816 days' light duty, which is 52·66 per cent. of all days lost.

Eight deaths occurred, all due to disease. There were two discharges on medical grounds.

General: Preventable diseases accounted for approximately one-sixth of the number of days lost by Europeans and half the number lost by natives. European figures shew an improvement on last year, both in number of days lost, and in cases of illness. Native figures shew an increase in number of cases of illness, but the average number of days off duty is practically stationary. Among natives, venereal disease appears to be the most frequent cause of disability and this is increasing.

(7) RED CROSS SOCIETY AND ST. JOHN AMBULANCE BRIGADE

The following is a summary of examination awards issued by the St. John Ambulance Brigade during 1939:—

Junior First Aid	221
Senior First Aid	195
Junior Home Nursing	17
Senior Home Nursing	104
Brigade Re-examinations in Advanced First Aid and Home Nursing Work	248
Total	<u>785</u>

The total examination awards are more than twice last year's which numbered 346. St. John Ambulance men have helped to form the nucleus of the Southern Rhodesia Military Ambulance Corps, and an additional large number of men would be willing to serve in the Medical Corps if they could be spared from their ordinary employment.

Classes in junior first aid for natives have continued to expand. Weekly lectures and demonstration classes have been held throughout the year at all of the larger towns, including classes of instruction for European school-children, scouts, girl-guides, Indian and coloured communities.

The Red Cross Society now has 16 trained detachments in the Colony, composed of seven ambulance (men) and nine nursing (women), and during the year ended October 31st, 1939, awards have been gained as follows: First Aid, 273; Home Nursing, 276; Hygiene and Sanitation, 5; Tropical Hygiene, 5; First Aid in Chemical Warfare, 62; total of all British Red Cross Society's awards, 621. Between October 31st and December 31st, 1939, approximately 200 more First Aid and Home Nursing Certificates should be added. Nine students qualified as Motor Ambulance Drivers.

The initial steps towards the inauguration of a National Blood Transfusion Service were taken in April, and the number of volunteer donors was 903 by October 31st. Of these, 650 have been grouped and tested in 21 different centres and accepted for service.

The Junior Red Cross has increased during the year from 64 links, with a membership of 4,319, to 89 links, with a membership of over 7,000. Approximately 586 awards in certificates and vouchers in Health, First Aid and Home Nursing were made during the year to European, Asiatic, coloured and native members of these classes.

One hundred and two native men and 35 native women qualified during the year to render first aid to the injured and two of these men have been passed as instructors to other natives.

CHAPTER IV. HOSPITALS, DISTRICTS AND LABORATORIES

(1) HOSPITALS AND DISTRICTS

Government Hospitals in Southern Rhodesia are for the use of the general public, paying patients being admitted in addition to indigents.

Expenditure on Government Hospitals of all kinds, including the native clinics and grants-in-aid of maternity hostels during the financial year ended March 31st, 1939, amounted to approximately £192,105 and the revenue received to approximately £38,623. This does not include the salaries of Government Medical Officers. Government thus bears 79·9 per cent. of the cost as compared to 77·5 per cent. in the previous year. This increase is probably due to the greater use of native clinics by the native population year by year, which brings in no direct revenue.

Admissions of European, Asiatic, coloured and native patients to Government Hospitals for the year 1935 to 1939:—

Inpatients (including Venereal Diseases)

	1935	1936	1937	1938	1939
European	6,820	7,642	8,040	8,356	9,179
Asiatic, Native and Coloured ..	10,717	12,328	13,704	18,849	20,593
Total	17,537	19,970	21,744	27,205	29,772

Outpatients Attendances (excluding Venereal Diseases)

	1935	1936	1937	1938	1939
European	11,966	14,345	22,685	15,909	18,358
Asiatic, Native and Coloured ..	24,700	36,895	44,521	48,479	59,651
Total	36,566	51,240	67,206	64,388	78,009

Of the above inpatients, 3,685 natives were admitted for venereal diseases. Figures for outpatient venereal disease cases cannot be stated accurately, because returns are sometimes given as “number of attendances” and other times as “number of patients.”

Salisbury Hospital: The number of Europeans admitted during 1939 was 2,830, a decrease of 38 as compared to the previous year. The daily number of European patients in hospital was 102·7 as compared with 103·4 in 1938. European outpatients numbered 5,635 as compared to 5,608 in 1938. Native and coloured admissions numbered 3,312, an increase of 378 on last year, and the number of native outpatients treated amounted to 23,086, an increase of 5,550 on last year.

The number of operations performed on Europeans decreased from 1,473 in 1938 to 1,349 in 1939. Operations on natives increased from 387 in 1938 to 399 in 1939. The X-ray Department dealt with 3,117 patients, an increase of 16 over last year.

Attendances at the Massage Department numbered 8,082, an increase of 1,287 on last year. Cases treated in the Radium Department numbered 33, which is a decrease of 27 on last year.

The total cost of maintenance of Salisbury European and Native Hospitals was reduced from £40,958 to £35,759, a saving of £5,199. This saving is a result of the reduction effected in the daily unit cost of maintenance by 1s. 10d. in the case of Europeans and 8d. in the case of natives, for which Mr. Wynne, Technical Clerk of the Public Health Department, is largely responsible. Allowance must, however, be made for war time economy and its effects upon replacements, etc.; this saving in the long run is not real economy.

The daily cost of maintenance of Europeans in the Johannesburg General Hospital is approximately 15s. 4d. per unit; in 1938, the cost in Salisbury Hospital was approximately 17s. 10½d. per unit; in 1939, 15s. 11d. For natives, the daily

cost per unit in the Johannesburg General Hospital was 5s. 1d., and in Salisbury in 1938, 2s. 10½d.; in 1939, 2s. 2d.

There was a slight decrease in malaria and blackwater fever, dysentery, pneumonia, typhoid fever and tuberculosis cases. Schistosomiasis cases maintained the same figure as last year. Admissions for tick typhus amounted to 23 as compared to 13 in 1938.

Memorial Hospital, Bulawayo: The number of European admissions again constitutes a record, being 2,741, or 360 more than in 1938. The daily average number of patients treated rose from 86 in 1938 to 103. 5,065 patients were admitted to the Native Hospital, this is 765 in excess of the figure in 1938. The number of beds available for natives still remains at 153, while the daily average number of inpatients was 201, which is 58 in excess of the number of beds available.

Outpatients: In the European block there was an increase of 401 attendances, from 6,587 in 1938 to 6,938, and in the native block an increase of 8,478 attendances, from 8,345 in 1938 to 16,823.

In the operating theatres, 2,529 operations were performed, an increase of 528 on last year. The increase was chiefly due to the number of minor native cases, but there was also an increase of 129 in European major operations.

In the X-ray Department, 2,472 patients were dealt with, 1,361 Europeans and 1,111 natives. This shows an increase of 662 over the previous year. A total of 4,242 films were used. The new Chaoux superficial therapy plant has been used with quite good results in the treatment of Epitheliomas, also in the treatment of Keloid scars in natives, but for this purpose it is too early to assess its value.

In the Massage Department, 1,651 treatments were administered, an increase of 319 over the previous year; 1,062 of these cases were treated electrically.

Malaria admissions numbered 317, this is 140 more than in 1938. There was a slight increase in blackwater fever, five cases with three deaths. Only 47 cases of scurvy were admitted, a decrease of 132, thought to be due partly to the effect of the heavy rains on crops, and partly to the combined efforts of the Compound Inspector and the propaganda of the Public Health Department.

Pneumonia admissions showed a slight increase in Europeans and a decrease of 32 in natives. Deaths decreased by 37. All pneumonia cases were treated with M & B 693. Since the use of this drug has been adopted, the case mortality for pneumonia cases has fallen from an average of 27·8 per cent. for the previous three years to 15·7 per cent. in 1939, a reduction of 43·5 per cent. of the previous figure.

Dysentery shows a steady decrease in admissions among Europeans, 18 being admitted in 1939 as compared with 51 in 1938. Of these, seven were bacillary, one amoebic and ten other forms. Seventy-five native cases were admitted, an increase of six, with nine deaths. Of the 75, eight were amoebic, 32 bacillary and 35 other forms. Tuberculosis among natives increased by eight to 67, with 22 deaths; among Europeans, there was a decrease of three, and no deaths.

Gonorrhoea is now treated by M & B 693, and this obviates the necessity for inpatient treatment by irrigation, which would be impossible with present facilities. Eighteen cases of onyalai were admitted and three deaths occurred; these figures are almost identical with 1938. Typhoid fever cases among Europeans numbered eleven, an increase of two, with two deaths. Only eight natives were admitted for this disease, with one death, a decrease of 13.

Gwelo Hospital and District: Admissions to hospital numbered 609 Europeans and 1,706 natives, these figures being increases over those of last year of 99 and 577 respectively. Outpatient attendances numbered 2,097 Europeans and 3,470 native and coloured, increases of 1,230 and 699 respectively on last year's figures.

Owing to an epidemic of malaria in the Lower Gwelo and Que Que Reserves in March, an anti-malaria campaign was inaugurated by the Senior G.M.O. Organised gangs of oilers were employed, insecticide spray used in dwellings and free quinine distributed among the affected population. The campaign was closed on April 24th. A G.M.O. was sent meanwhile to relieve the S.G.M.O. of his routine duties.

Malaria was not only epidemic in the above-mentioned reserves but very prevalent throughout the district during February, March and April. Some cases undoubtedly contracted infection in Gwelo itself.

For economic reasons, it was decided to treat the large number of schistosomiasis cases in Daisyfield School by admitting them in batches of 28 to the top floor of

the European Hospital. One extra nurse was provided and a teacher from the school accompanied the children and stayed with them.

About 130 cases of smallpox occurred in the Que Que Reserves, Rhodesdale North and South, and Lalapanzi area. The district was declared free of smallpox in the middle of June.

Venereal diseases occurred in the following proportions: syphilis, 50%; gonorrhoea, 24%; soft chancre, 25.5%; ulcerating granuloma, 0.25%; lympho-granuloma inguinale, 0.25%. The total number of admissions to the Native Hospital was 507 as compared with 186 in 1938. The position is not expected to improve until legislation is provided for compulsory medical examination of native females believed to be prostitutes. The apparent increase in venereal disease is due to the fact that admission of these cases to hospital was only started on a large scale in the middle of 1938. Tuberculosis among Europeans numbered four, one secondary to silicosis. Among natives, pulmonary tuberculosis is common, both in association with silicosis and otherwise.

Only one case of scurvy was reported; this low incidence is considered a record. One case of acute anterior poliomyelitis occurred. This was an adult European woman who died from respiratory paralysis. The Iron Lung was used for this case and prolonged life for about 16 hours. One case of puerperal sepsis occurred; sulphanilamide drugs were found to be useless for this, and recovery occurred after a severe illness and repeated blood transfusions.

Gatooma Hospital and District: Admissions to hospital numbered 814 Europeans and 2,392 natives. This represents an increase in last year's figures of 164 Europeans and 831 natives. The native admissions include 751, who were treated at the Venereal Disease Clinic attached to the Hospital. The Outpatient Department dealt with 992 European attendances and 4,740 native and coloured, increases on last year of nine European and 171 native and coloured attendances. A further 24 native outpatient attendances were registered at the Native Venereal Disease Clinics.

Malaria accounted for 282 European cases, with three deaths, and 260 native cases, with 20 deaths. Comparative figures for 1938 are 158 Europeans, with two deaths, and 118 native, with 17 deaths. These increases are believed to be due to the abnormal rainfall this year. Blackwater fever cases rose among Europeans from two cases, with one death, in 1938, to five cases, with two deaths, in 1939. Only one native case of blackwater occurred (a coloured) and he recovered.

Seven cases of tuberculosis, with four deaths, occurred among Europeans; four of these cases were tuberculo-silicotics. There were 75 cases of tuberculosis among natives as compared with 50 in 1938; deaths rose from 22 in 1938 to 31 in 1939. This increase is due to the increasing use of X-ray and laboratory diagnostic methods. Practically all the natives had mining histories.

Pneumonia accounted for 18 European cases, with five deaths, as compared to 31 cases, with three deaths, in 1938. Among natives, 72 cases of pneumonia were treated as compared to 109 in 1938. Deaths for 1939 were 26 and for 1938, 38. Case mortality figures are therefore almost the same, in spite of the use of M & B 693, but the hospitalisation of these cases is now much shorter in duration.

A great drop in incidence of scurvy is reported, seven cases only as compared to 46 in 1938; this is attributed to the action of the Public Health Department, against unbalanced rations for natives. An interesting case occurred during the year, namely, the delivery by laparotomy of a healthy live native child which had survived ectopic gestation for apparently six months. Mother and child progressed favourably and were discharged from hospital 17 days after admission. The placenta was adherent to the right broad ligament, the fimbriated end of the left fallopian tube and to the omentum.

A new clinic is being built at Gokwe. The nutrition of natives of Sebungwe area is not good.

Umtali Hospital and District: European admissions for 1939 numbered 869, an increase of 15 in 1938. Outpatients numbered 243.

Total coloured and native admissions numbered 1,511, being 85 more than in 1938. Outpatients were 1,992, with 7,363 attendances. The new additions to the native ward have been more than justified. In July the new Asiatic block was officially opened; it consists of four two-bedded wards, and allows separate accommodation for both classes of the community. This has allowed the conversion of the old coloured wards into additional accommodation for natives.

Maternity cases, accidents of pregnancy and puerperal conditions numbered 81. Three of these cases died of puerperal sepsis due to the late stage of the affection at which they were admitted. These figures serve to indicate the necessity for widwifery services and for a trained nurse to visit emergency cases in the district.

In the European theatre there were 135 major operations and 256 minor; in the native theatre there were 13 major operations and 287 minor.

342 Europeans and 185 natives were X-rayed; an increase of 45 patients compared with 1938.

A trained Native Microcopist has done valuable work and examined 2,658 specimens. Five out of 79 specimens of stool examined from Europeans shewed hookworm ova, and 215 out of 912 specimens from natives. The prevalence among natives in this district is not entirely due to alien natives arriving already infected; from July 22nd to December 31st, no less than 40 indigenous natives gave positive results in a single examination for hookworm.

Malaria: The following figures shew the comparative incidence for two years:—

					1939		1938	
					Cases	Deaths	Cases	Deaths
Europeans	..	..	..	..	146	2	163	4
Natives	..	..	..	..	181	7	143	5

These figures show a diminution in European cases and a rise in native cases. Sir Malcolm Watson, on his visit to Umtali, expressed the view that in the township of Umtali the control of malaria did not present any unsurmountable problem.

Blackwater Fever: Three cases occurred among Europeans and one among natives. No deaths occurred. The native case was an immigrant from Cape Eastern Province, hence his susceptibility to the disease.

Pneumonia: Europeans: Five cases, no deaths.

Natives: Lobar pneumonia: 27 cases and 12 deaths.

Broncho-pneumonia: 20 cases and seven deaths.

The case mortality is high in spite of the large scale use of M & B 693; however, it must be noted that in a fair proportion of fatal cases there exists an additional factor—visceral disease. Other cases without doubt show a marked improvement following M & B 693 therapy.

Typhoid Fever: Europeans: 14 cases with one death.

Natives: 11 cases with two deaths.

The existence of this incidence among Europeans was due to an outbreak in North Melssetter at the end of 1938 for which special control measures were adopted.

No cases of scurvy were admitted. One reputed case turned out to be due to Vincent's angina.

Nevertheless, it is felt that a good deal of avitaminosis of a sub-clinical type exists among the native workers due to the badly balanced rations given by most employers, and the carelessness of the native workers in this respect, especially alien ones.

Twelve natives were admitted for pulmonary tuberculosis, nine of these died, due to the fact that practically all these cases are in a hopeless condition before admission. Pulmonary tuberculosis is thought to be increasing among natives in this district, and *not* due to service in the mines.

Ten Europeans and 79 natives were admitted for schistosomiasis, the native cases being double the number admitted in 1938.

The Odzi Clinic is in the care of a trained native orderly who is able to make simple examinations and microscopic investigations. This is considered a great economy, because the cost of such training and investigations is far less than the drugs wasted on purely symptomatic treatment, which would be given by an untrained man, apart from being satisfactory for the medical man in charge. It is hoped to bring Tsonzo Clinic into line with Odzi, by giving the orderly a refresher course in Umtali Hospital.

Fort Victoria Hospital: Admissions numbered 335 Europeans and 629 natives as compared with 366 Europeans and 1,011 natives in 1938.

Outpatient attendances increased greatly, numbering 1,217 European and 1,656 native as compared with last year's figures, 369 European and 662 native.

Malaria cases numbered 141 Europeans and 88 natives, with no deaths, an increase in European cases of 51 as compared with 1938. Two European cases of blackwater fever occurred, both recovered.

Pneumonia accounted for eight European admissions, with one death, and 56 natives, with ten deaths—a mortality of 17·9% for the latter. Two cases of scurvy were seen.

The G.M.O. was on leave during the greater part of the year.

Sinoia Hospital and District: European admissions numbered 213 and native admissions 1,030 as compared to last year's figures, Europeans 180 and natives 804. Outpatient attendances were Europeans 253, natives 1,827; 14 maternity cases were dealt with as compared to eleven in 1938. Seventy-three European admissions were on account of malaria as compared with 74 last year. No increase in this disease is reported. Four cases of blackwater were seen, one died. Facilities for blood transfusion were found a great asset for these cases.

Only one doubtful case of scurvy was seen, whereas 49 cases were admitted in 1938. This drop in incidence is attributed to three factors, (1) the abnormal rainfall with consequent abundance of fresh fruit and vegetables; (2) a great decrease in the number of Northern natives which resulted in boys being kept on farms and mines for a second year under better dietetic conditions than they were accustomed to at home; (3) the elimination of the weaklings in 1938. Six cases of pellagra were seen; all responded well to nicotinic acid.

Smallpox cases occurred sporadically throughout the district during most of the year. Schistosomiasis appears to be on the increase in both Europeans and natives.

Chinomwe Clinic is poorly attended on account of the sparse native population. Miami Clinic continues to do good work, largely due to the energetic interest of the A.N.C. The new clinic at Darwendale will be opened early in 1940, and should relieve the congestion in the Sinoia V.D. Camp. 252 cases were admitted during the year into this camp. Mention is made of the necessity to compel native prostitutes to come for treatment; a relatively small number of these women form the focus of infection for the majority of venereal cases admitted.

The G.M.O. was on sick leave for five months during the year.

Gwanda Hospital and District: European admissions numbered 128 and native admissions 1,180 as compared with last year's figures, European 97 and native 1,077. Outpatient attendances were European 95, native 127.

Malaria was not a serious cause of illness, but prophylactic measures are conspicuous by their absence. No blackwater fever cases were seen.

Six Europeans suspected of having tuberculosis were investigated. There is reason to believe that many persons, barred from work on the Rand mines, come to Rhodesia to seek work. Native cases of tuberculosis are relatively rare; only five cases were admitted to hospital during the year. Schistosomiasis appears to be a rare disease in this district. Ten cases of scurvy were admitted during the year, with one death, as compared to 126 cases in 1938. This disease appears to be now under control as the result of propaganda by the Native and Public Health Departments. Venereal disease shews no increase.

Electricity has now been laid on to Gwanda and West Nicholson, and power or light is provided from this source to the Hospital and quarters. Work has been commenced on a large public swimming bath. Sanitation and water supplies on many mines compounds are considered unsatisfactory.

Enkeldoorn Hospital and District: 144 Europeans and 704 natives were admitted during the year as compared with 82 Europeans and 546 natives in 1938. Outpatient attendances numbered 176 European and 806 native as compared with 219 European and 1,133 native in 1938.

Typhoid fever occurred in sporadic form among Europeans in the district. Malaria was neither frequent nor scarce; one fatal case of blackwater fever was seen. Schistosomiasis is prevalent, and this is attributed mainly to ignorance of prophylactic measures. Only one case of scurvy was seen. Admissions for venereal disease (natives) were 136, which is the same as for the previous two years.

Shamva Hospital: Twenty-eight Europeans and 798 natives were admitted during the year. Outpatient attendances numbered 103 European and eight native. Admissions during 1938 were 45 Europeans and 380 natives, and outpatient attendances

were 64 European and eleven native. The number of native cases of venereal disease treated in 1939 was 494 as compared with 298 in 1938.

Malaria accounted for 14 European admissions and 27 native. One case of blackwater fever was seen. Twenty-seven natives were admitted for pneumonia and ten died.

Que Que Hospital and District: 193 Europeans and 674 natives were admitted during the year as compared with 150 Europeans and 316 natives in 1938. Outpatient attendances numbered 39 European and 385 native.

Malaria accounted for 53 European admissions and 109 native, a considerable increase attributed to the abnormal rains in addition to the neglect by Europeans to adopt any prophylactic measures against this disease. No case of blackwater fever was seen. One European and eleven native cases of tuberculosis were seen—they were all underground employees on local mines. Approximately 300 natives were sent from this district to Gatooma for treatment of venereal disease. It is suggested that some saving could be effected by provision of facilities for treatment locally. Many natives abscond on the journey to Gatooma. Six cases of scurvy were admitted, slightly less than in 1938.

Six Europeans were admitted for pneumonia; one died. Thirty-five natives were admitted for this disease and 13 died. The high case mortality among natives is attributed to the advanced stage of the disease when the patients were admitted.

Que Que Municipality has its own part-time M.O.H., who is not in Government employ. Sanitary conditions on mines compounds and the Que Que Location, and housing, water-supplies and dairies appear to be satisfactory.

Bindura Hospital: 163 Europeans and 1,199 natives were admitted; 681 of these 1,199 natives were admitted for venereal disease.

Malaria accounted for 64 European admissions, with no deaths, and 43 native admissions, with five deaths. In 1938, European admissions were 131 and natives, 446; 52 of the European admissions were for malaria and three for blackwater fever.

No cases of blackwater fever or scurvy were admitted in 1939. Thirty-three cases of pneumonia were admitted, of which eight died.

Rusapi Hospital and District: 112 Europeans and 566 natives were admitted, of which 141 natives were treated for venereal disease. Outpatient attendances numbered 153 European and 423 native. In 1938, 97 Europeans and 390 natives were admitted; this Hospital was taken over by the Government on April 1st, 1938.

Malaria accounted for 23 European admissions, with one death, and 15 native, with three deaths. No cases of blackwater fever or scurvy were admitted. Maternity cases admitted numbered twelve European and thirteen native; two of the latter died in childbirth, and one from puerperal sepsis and pneumonia. Thirteen native cases of pneumonia were admitted, and one died.

At the Chiduku Reserve Clinic, 162 patients were admitted, and the number of outpatient treatments was 10,701 to 1,042 patients. Two cases of smallpox occurred in this reserve in January.

Five cases of cerebro-spinal meningitis were seen, of which one died; they were all treated with M & B 693. Ten cases of leprosy were sent for treatment to Mtoko.

Plumtree District: The general health of the district, both European and native, has been good throughout. Endemic malaria appears to be absent from Plumtree village. A rather severe epidemic among natives occurred in the Nata Reserve. Endemic malaria is present in the Tjlotjo and Gwaai areas; in the latter area practically every native examined in the local clinic (Sipepa) has a huge spleen. No blackwater fever case was seen. No European case of tuberculosis was seen, but six native lung cases were treated, five of which had worked underground in mines. Several cases of tuberculosis of bones and joints were seen, and one case of tuberculosis of testicle. Schistosomiasis appears to be rare.

Venereal disease is common among natives in the district; huge numbers are treated at the clinics and many cases which appear to be syphilis are probably yaws. A few cases of scurvy occurred during the first part of the year.

The native clinics at Plumtree, Tjlotjo, Mphoengs, Butze and Sipepa continue to be well patronised, and the Missions at Embakwe, Empandene and Tegwani carry on native work. Empandene is not well patronised except by school-children, and Tegwani, being only nine miles from Plumtree, does not require development.

Dairies, butcheries, bakeries and native kraals were inspected during the year, and detailed reports submitted. Road gang accommodation needs improvement, a great deal of rheumatism occurs at present.

Victoria Falls District: Dr. E. M. B. West, Medical Officer to the Rhodesia Railways, Livingstone, has been appointed Aided G.M.O. for the Victoria Falls District, since November, 1939. He has been employed in anti-malarial work under the Rhodesia Railways, with the guidance of Sir Malcom Watson, of the Ross Institute, since 1932, and has submitted a full report of his work from that time to date.

The preliminary survey, to determine where mosquitoes were breeding, and how they might be dealt with, lasted a period of two years. The Victoria Falls Hotel was taken as a centre, and an area was examined within a mile's radius of the hotel. This required considerable training and organisation of native employees. *Anopheles gambiae* were found all over the Zambesi River in pools of water left behind by a receding and falling stream. Mosquito destruction measures were accomplished step by step. The Rain Forest area was drained, then cleared of undesirable grass, showing up new vistas of the Falls from the road hitherto unsuspected by the passing traveller. Oiling of the banks of the river on the South side started, then clearing the banks of the river, and finally oiling the whole river for six months in the year from the Victoria Falls launch. This was a new method of anti-malarial control and the underlying principle was to utilise the river current itself to do the mechanical part of oiling the pools above the Falls.

Further anti-malarial measures consisted of removing all natives to one anopheline-free area where a new village was built. This eliminated the main source from which mosquitoes might become infected. All native huts were sprayed out once a week with Pyagra insecticide. Experimental control of infected natives was undertaken among two groups, one of 106 boys who were given two courses of Atebrin & Plasmoquin and one group of 34 boys who received no treatment. The conclusions of this experiment indicated that suitable treatment lowers the infectivity of natives, but in the absence of efficient anopheline destruction, such treatment is much less valuable. The high rate of infectivity, especially among native children, indicated the urgent need to remove natives as far as possible away from anopheline breeding grounds, and to extend greatly the area of anti-malarial control.

Since the outbreak of hostilities, there has been considerable military activity in the Victoria Falls district, but there have been only two cases of malaria among the troops stationed there. Both these cases are believed to have contracted their infections elsewhere. A few years ago at least 50 per cent. of the troops could have been expected to contract malaria at this time of the year, so considerable economy has been effected already in this direction.

A further activity of this Aided G.M.O. has been routine medical examination of all natives entering Southern Rhodesia *via* the Victoria Falls. Diseased and physically unfit labour has been returned to Northern Rhodesia for treatment before being admitted. A large number has been detained at the Falls for rest and feeding before being passed on; they are meanwhile treated for minor complaints, and all natives were submitted to hookworm disinfestation before being passed on. In almost all cases where natives were detained, they put on weight, sometimes only two or three pounds in a week, often a pound a day. Interesting comparisons were drawn between the natives from different areas and different territories, as regards their physique and condition. The Superintendent of Roads at the Victoria Falls testified to the decrease in sickness and better condition of native labourers engaged since this scheme has been in operation, but suggests that there is still room for improvement in natives which would, he considers, put an end to the present condition of native labour.

Interesting tables were submitted to show graphically the effect of anti-malarial control and the height-weight comparisons of natives from different territories, and the list of anophelines caught in the controlled area.

Melsetter District: Malaria was not prevalent and was mild in character. Schistosomiasis and hookworm cases treated are believed by the G.M.O. to have contracted infection outside this district. An epidemic of typhoid fever occurred during the year, but was brought under control by sanitary measures and immunisation of contacts. One case of smallpox occurred, but no further spread occurred since the population was fairly well vaccinated within the last few years. A Government loan has been granted to the Melsetter Village Management Board of £310, to enable it

to distribute a piped water-supply. A small camp for tourists has been established. This is provided with sanitary and other accessories.

In Rusitu Mission, inpatients numbered 867 and outpatients 85; maternity cases eight. Pneumonia and malaria were the main diseases.

At Mutambara Mission, inpatients numbered 798, outpatients 9,690, and maternity cases 49.

Filabusi and District: At the Native Clinic, 476 cases of communicable venereal disease were treated in inpatients. Relatively non-communicable cases of late syphilis were treated as outpatients and numbered 140. Gonorrhoeal cases were mostly cured after ten days' treatment by M & B 693; only two out of 70 cases reported relapse.

Diseases other than venereal accounted for 248 admissions to the clinic; they were nearly all medical cases. Present facilities for surgery being non-existent, all major surgical cases were sent to Bulawayo. No case of lobar pneumonia died, and this is attributed to M & B 693. Outpatients numbered 1,007. A large number of natives from the mines who would otherwise be treated as outpatients attend their local mine hospitals, while only serious cases and venereal cases are sent to Filabusi Clinic.

There are no hospital facilities for Europeans in Filabusi; all such cases must be sent to Bulawayo.

A few cases of suspected miners' phthisis were sent to Bulawayo, and mostly repatriated therefrom. No scurvy case was seen. Malaria and schistosomiasis are not common; this is attributed to the local soil conditions facilitating rapid drainage.

One case of blackwater fever was treated and recovered.

Ndanga District: The Ndanga Unit consists of a central clinic at Ndanga and nine outlying clinics. A journey from one outlying clinic to another, completing the rough circle, would involve approximately 600 miles of travelling. The number of patients (outpatients plus inpatients) dealt with by the unit in 1939 was 22,148, and it is estimated that this will rise to 24,500 in the coming year. The European staff which deals with all this work numbers two. The estimated cost per unit (counting outpatients as one unit each) was 3·3*d.*; if the salaries of the G.M.O. and European orderly are taken into account, the total cost was 5·1*d.* per day. Suggestions are made for obtaining fees from natives in the district to meet these expenses, by a slight increase in the dip fees which are already paid. Convalescent patients are employed as far as possible in the routine work of upkeep and improvements of the various clinics.

Dispensary "G" in the Gutu District has been a great success in spite of the fact that another Government Clinic is situated not far away—at Gutu itself, apart from the Mission Hospital thereat; Dispensary "C," 50 miles further East, has a smaller attendance, attributed to the fact that two orderlies in succession at this clinic proved unsatisfactory.

Bikita Clinic is satisfactory, as also is Dispensary "B," below Zaka. Chichidza Clinic is a success, but it is hopelessly insufficient for this thickly populated area. Matibi No. 2 is a new venture among natives of a different tribe (Shangaans), and being in a wild part, an institution of this sort takes some time to achieve popularity, hence the low figures of attendances to date.

Dispensary "A" in the Matsai Reserve of Bikita district is still in the pole and dagga hut stage, but great improvements have been effected by the orderly in charge, despite the lack of funds. Gutu Dispensary is only a small clinic with hopelessly inadequate accommodation, and was erected to take the place of the Mission Clinic. It is supervised by the Gutu District Nurse, and the N.C. takes a keen personal interest in it too.

Chingombe Clinic has been taken over from the Dutch Reformed Church. It is near the Devuli River, and the accommodation is not considered sufficient.

These outlying clinics obviously serve a most useful purpose, as proved by the fact that since their erection the work at the control clinic has not diminished. This popularity is attributed to the "more natural conditions of living" (huts) which the natives prefer to the usual hospital wards in townships.

Syphilis and yaws are the principal diseases treated.

Tuberculosis occurring in women who have never left the district is ominous news. It is urged that a systematic survey of natives in reserves should be undertaken as soon as possible.

Malaria is one of the commonest diseases encountered. Among Europeans, this is attributed to total neglect of elementary prophylactic measures. Schistosomiasis is common. Lobar pneumonia, diphtheria, fungus diseases and intestinal infections are rarely encountered. Cancer appears to be frequent. Conjunctivitis in epidemics and continually throughout the year was more frequent than usual. Smallpox occurred in the Gutu district but was promptly stamped out. Scurvy was seen in the Gutu district and Matibi No. 2 district. Objection to anaesthetics on the part of natives is now practically a thing of the past.

More native women come to the clinics for childbirth than previously. This is attributed to the effect of anti-syphilitic treatment with consequent birth of mature, healthy children in the clinics, as opposed to premature and sickly infants among births in the kraals, which fact the native has not failed to observe. A trained midwife at each outlying clinic is recommended.

Explanation of the small number of outpatient compared to inpatient units is given. It is felt that treatment of syphilis and malaria cases as outpatients is not efficient, and is therefore a waste of drugs.

Figures shewing the work performed by this unit are given at the end of this report.

Marandellas District: The general health of the district shows little change, but a better knowledge of the aetiology of malaria and schistosomiasis is likely to bear fruit. Malaria occurs mainly in the Marandellas North area, which becomes progressively more dangerous every mile North to Mrewa. One case of blackwater fever was treated, believed to have been contracted in the Shamva district.

Venereal disease patients maintain their usual numbers with "the usual seasonal variation." Many are voluntary, but growing concern is expressed at the ineffective existing legislation which in no way secures compulsory examination or treatment of flagrant cases which are known to be a public menace. Additional buildings have been erected at Marandellas and Wedza Clinics. Mention is made of the importance of securing efficient native orderlies for clinics.

Visits made to Major Hastings' dispensary at the R.T.E. have elicited the fact that a large percentage of natives coming from the North are infected with various parasitic diseases.

Inyanga District: Gastro-enteritis among Europeans has been common. This is attributed to the use of unboiled water from an unprotected water-furrow.

The Inyanga Clinic is doing good work. Malaria among natives is common. Schistosomiasis is rare. Venereal diseases are common among natives who have worked in town.

Hartley District: An outbreak of smallpox occurred in the Mandero Reserve in March, and a few cases were seen later during the year. The malaria incidence was continually high throughout February, March and April in this district. One case of scurvy and one of pellagra were seen.

Wankie District: Lukosi Clinic had a very busy year. Most natives attending it came from the reserve or Roads Department. From the latter came a great number of cases of scurvy and tropical ulcer.

Eight European cases of infectious disease occurred in the district, but no native cases.

The population of Kamativi Mine has increased very very rapidly, and thus the housing and sanitation have not kept pace with it, and these and medical facilities are not very satisfactory at present. Nevertheless, the health of this population has not differed.

At Dett, housing and sanitation are under the control of the Railways, and are excellent.

Selukwe District: 1939 was an exceptionally good year in Selukwe from the point of view of general health, but an extensive epidemic of malaria broke out in the reserve, with a considerable number of deaths. The fact that the epidemic never spread to Selukwe itself is attributed to the greater altitude of Selukwe—some 1,200 to 1,500 feet—where malaria does not appear to be endemic.

A great drop in the mortality from pneumonia is reported. This is believed to be the result of M & B 693 treatment. Venereal diseases appear to be increasing in incidence, and syphilis has now taken the place of pneumonia as the main cause of death. One compound manager reports that about half the women in his compound are sterile, and among the remainder miscarriages are as common as full-time children.

Measures are being taken to combat this by employment of qualified female native nurses to advise the women on venereal disease.

Belingwe District: There was an exceptionally high incidence of malaria, especially in the Lundi and Belingwe Reserves. Sir Malcolm Watson visited Shabani in August and detected only 13 native children with enlarged spleens out of 184 examined. A few cases of smallpox occurred in the district—the tail end of last year's epidemic.

Only two cases of scurvy were seen. M & B 693 appears to be efficacious in treatment of pneumonia among young natives, but not so among older ones. A number of cases of silicosis with or without tuberculosis occurred on the mines, and were all admitted to Government Hospitals. Venereal diseases are as common as usual; gonorrhoea seems to be on the increase.

A clinic at Belingwe would be a great asset.

Umvuma District—Europeans: A slight increase in malaria cases occurred this year, and one case of blackwater fever was treated with subsequent recovery. Several cases of schistosomiasis were treated at Chilimanzi Settlement School. No cases of venereal disease, tuberculosis or dysentery were seen.

Natives: Syphilis was again the most predominant disease, but the number of cases seen at Umvuma Clinic and Chilimanzi Clinic was less than in 1938. A few cases of scurvy were seen, mostly children at the Chilimanzi Clinic. Malaria incidence was slightly higher than in 1938. Only three cases of smallpox were seen.

The whole Chilimanzi Reserve was searched for cases of leprosy, and 15 cases were found; of these seven were new cases which were transferred to Ngomahuru.

Sanitation: The bucket system of disposal of excreta works satisfactorily in Umvuma, but no general sanitation scheme is in use at Nyson township, which is above the Umvuma water reservoir. A filtration plant is contemplated for the Umvuma water supply. There is no location in Umvuma, but natives are housed either on private stands or in a kraal just outside the town. This kraal is supervised by the Town Board and is kept in a sanitary condition. On the mine compounds, sanitation and water are satisfactory, but a serious feature is the number of prostitutes whom the management dare not drive out for fear of losing their labourers, who would leave if they did so. Government road gangs are well housed in huts, and well fed, and no cases of scurvy have been seen among them. Dairies, butcheries and bakeries are satisfactory.

Lonely Mine District: The Medical Officer to the Lonely Reef Gold Mining Co., Ltd., is employed by the Government as A.G.M.O. for this district.

Malaria was negligible in incidence among Europeans, but very prevalent among natives.

Syphilis is becoming more prevalent among natives, attributed to travelling native prostitutes. No cases of scurvy were seen, and only two cases of pellagra in newcomers to the mine.

A mild epidemic of cerebro-spinal meningitis, localised to one hut, occurred. Eight natives were affected and three died. All were treated by M & B 693.

The physique and mentality of natives entering the service of the mine is commented upon as being inferior to that observed in the past, but owing to scarcity of labour, one is bound to accept cases which would have been rejected previously, hence an increased susceptibility to disease can be expected.

Only two out of 26 cases of pneumonia admitted to hospital succumbed. Treatment by M & B 693 was carried out.

Mtoko District: The G.M.O. in charge of Mtemwa Leprosy Hospital, Mtoko, is also responsible for general medical work, and supervision of sanitation in the districts.

At the non-leper clinic at Mtoko the number of attendances is smaller than last year.

The most prevalent diseases were venereal diseases, schistosomiasis, hookworm and malaria. A few cases of smallpox were seen. Comment is made of a disease called by the natives "chipande." It attacks only infants, whose fontanelles enlarged and are increasingly depressed; they suffer from diarrhoea, wasting and sometimes a little cough, have little fever, and generally die. It appears to be a food deficiency disease, but treatment on these lines has no effect.

Mention is made of the unsatisfactory state of labourers entering the Colony, and recommendations made for counteracting this.

(2) LABORATORY SERVICES

The following table shews the number of investigations carried out in the years 1936 to 1939:—

	1936	1937	1938	1939
Public Health Laboratory, Salisbury ..	31,557	32,092	44,192	47,734
Public Health Laboratory, Bulawayo ..	3,605	5,985	8,578	10,472
Government Analyst, Salisbury	844	1,061	1,201	1,148
Total	36,006	39,137	53,971	59,354

THE PUBLIC HEALTH LABORATORY AND PASTEUR INSTITUTE,
SALISBURY

Total number of investigations 47,734

DETAILED SUMMARY

BACTERIOLOGY

Blood: From 67 cultures *B. typhosum* was isolated on seven occasions, staphylococci on nine, and pneumococci one.

Urine: 1,167 specimens were cultured, *B. coli* being present in 653, *B. typhosum* in five, and other organisms in 153.

Faeces: 486 cultures were made, and pathogenic organisms isolated were *B. typhosum* 11, *B. dysenteriae* Flexner one, *B. morgani* two.

Throat and Nasal Swabs: 1,563 throat and 168 nasal swabs gave 38 positive for *C. diphtheriae*.

Sputa: *M. tuberculosis* was present in 105 of 640 sputa.

Leprotic Material: *M. leprae* was present in 220 of 643 specimens submitted.

Urethral, Cervical and Vaginal Smears: In 1,024 specimens the gonococcus was present in 223.

Cerebro-Spinal Fluid: The meningococcus was present in 34, pneumococcus in 11, and streptococcus in three of 231 specimens.

Water and Milk Examinations: 229 specimens of water and 284 of milk were examined.

Vaccines: 182 autogenous vaccines were prepared.

Rabies Vaccine: 74 courses were prepared and despatched.

SEROLOGY

Wassermann Reaction: 6,415 specimens were received. Positive results were obtained in 1,591, doubtful in 337, and negative in 4,477.

Agglutination Reactions: 512 sera gave positive results with typhoid or paratyphoid organisms in 152 instances, but many of these gave group agglutination; six sera agglutinated *B. abortus*, and of 20 Weil-Felix reaction three were positive.

Blood Grouping: 783 groupings were done.

PARASITOLOGY

Blood: 4,395 blood smears were examined; *P. falciparum* was present in 767, *P. malariae* in 11, and *P. vivax* in 10. Micro filariae was present in one.

Urine: In 8,182 specimens, *S. haematobium* was present in 685, *S. mansoni* in 22, *S. matthei* in six, *E. vermicularis* in 14, and *T. vaginalis* in 17.

Faeces: The following is a list of positive findings in 5,584 faecal specimens examined:—

Entamoebae Histolytica	..	..	..	..	10
Giardia Lamblia	..	..	..	..	6
Chilomastix Mesnili	..	..	..	..	1
<i>S. mansonii</i>	..	..	..	..	565
<i>S. haematobium</i>	..	..	..	..	59
<i>S. mattheei</i>	..	..	..	..	19
Hookworm	..	..	..	..	744
<i>E. vermicularis</i>	..	..	..	..	102
<i>A. lumbricoides</i>	..	..	..	..	85
<i>Tr. trichiura</i>	..	..	..	..	40
<i>Taenia spp.</i>	..	..	..	..	79
Hymenolepis Nana	..	..	..	..	32
<i>S. stercoralis</i>	..	..	..	..	21
Tapeworms	..	..	..	..	9

HAEMATOLOGY

The following summary details the work done:—

Complete Blood Counts	..	..	..	..	287
White Cell Counts	..	..	..	..	612
Red Cell Counts	..	..	..	..	177
Differential Counts	..	..	..	..	2,840
Haemoglobin Estimations	..	..	..	..	50
Arneth Indices	..	..	..	..	2
Reticulocyte Counts	..	..	..	..	9
Platelet Counts	..	..	..	..	13
Coagulation Time	..	..	..	..	9
Bleeding Time	..	..	..	..	5
Fragility Tests	..	..	..	..	6
Capillary Resistance Tests	..	..	..	..	2
Sedimentation Rate	..	..	..	..	21

BIOCHEMISTRY

Blood: 145 quantitative estimations were made.

Urine: 4,828 general and chemical examinations, and 213 special or quantitative were done.

Gastric Contents: 225 fractional analysis and six other examinations were done.

Faeces: 94 specimens were examined.

PATHOLOGY AND HISTOLOGY

243 post-mortem examinations were made and 656 specimens of tissue examined. Malignant tumours were present in 62, while in 23 lesions of bilharziasis were found.

Skin Tests: 271 tests were done, 31 being Mantoux tests, 110 Schick tests, 128 pollen and protein sensitivity tests and two hydatid tests.

BIOLOGICAL TESTS

Sixteen *C. diphtheria* virulence tests, 29 Friedman tests and 23 animal inoculation tests for *M. tuberculosis* were done.

THE PUBLIC HEALTH LABORATORY, BULAWAYO

In the routine division of the laboratory 15,848 tests were carried out on 10,472 specimens received during the year from the following sources:—

Government of Southern Rhodesia	..	..	5,965
Rhodesia Railways	..	..	551
Bulawayo Municipality	..	..	1,809
Private Practitioners, etc.	..	..	2,147

BACTERIOLOGICAL TESTS

- (a) Of 75 blood cultures received, 12 yielded pathogenic organisms, including six in which *B. typhosum* were demonstrated.
- (b) 210 cultures of faeces yielded 23 pathogenic organisms of which three were *B. typhosum*.
- (c) 602 specimens of urine were cultured with 221 isolations of pathogens.
- (d) 347 swabs from throat and nose gave 18 positive for *C. diphtheriae*.
- (e) 173 other cultures from morbid material gave 54 positive results, including one *Cl. tetani* and one *M. tuberculosis*.
- (f) In 48 cases autogenous vaccines were prepared.

A continuous watch was kept bacteriologically on the Bulawayo Municipal Water Supply by means of 55 complete investigations. The standard was maintained at a very satisfactory level.

Assistance was also given to the Government Dairy Officer by means of 19 plate counts on samples of milk. Direct microscopical examinations on 1,218 specimens gave the following results:—

Nature of Specimen				Findings			
Sputa:	681	..	..	..	<i>M. tuberculosis</i>	..	65
C.S.F.:	46	..	..	..	{ <i>Meningococcus</i>	..	16
					{ <i>Pneumococcus</i>	..	1
Swabs:	108	..	..	..	{ <i>C. diphtheriae</i>	..	14
					{ Vincent's Organisms	..	10
Smears:	325	..	..	..	Gonococcus	..	61
	27	..	..	..	<i>M. leprae</i>	..	1
	36	..	..	..	<i>Tr. pallidum</i>	..	2

Fourteen animal inoculations were done during the year, with one positive result (*M. tuberculosis*). Up to the present it has not been possible to undertake pregnancy diagnosis tests.

In the routine anti-plague measures, 55 rodents trapped near Bulawayo were examined. All were negative.

In the serological division, 657 samples of sera were examined by Dreyer's technique for agglutinins. The results were—

<i>B. typhosum</i> "H"	..	..	..	..	..	32
„ „ „O"	..	..	..	..	..	29
„ „ „Vi I"	..	..	..	..	..	7
<i>B. paratyphosum</i> A	..	..	..	..	..	16
„ „ B	..	..	..	..	..	7
<i>B. abortus</i>	..	..	..	..	..	1
Proteus OX19	..	..	..	..	..	3
„ OXK	..	..	..	..	..	3

SYPHILIS

Kahn tests have replaced Wassermann reactions owing to simplicity and less demand on the time of a small staff. Of 3,290 specimens of blood, 1,034 were positive, and of 220 cerebro-spinal fluids, 32.

In connection with the Blood Transfusion Circle, 205 specimens of blood were grouped according to the International Classification

In the parasitology section, 504 blood smears examined gave the following positive results:—

<i>P. falciparum</i>	..	..	..	..	..	96
<i>P. vivax</i>	..	..	..	..	..	6
<i>P. malariae</i>	..	..	..	..	..	1
<i>Tr. recurrentis</i>	..	..	..	..	..	4

776 specimens of stools gave 53 findings of pathological importance, including 24 *E. histolytica*, one *S. mansoni*, and 14 hookworm ova.

Of 1,612 specimens of urine, ova of *S. haematobium* were present in 105.

Biochemical investigations were performed on 71 specimens of blood; 43 of cerebro-spinal fluid; 17 of faeces; 20 of stomach content and 4,618 specimens of urine.

In the haematological section, 671 investigations were done, mainly on oxalated blood, but heparin was used as the anti-coagulant in a few cases. Included in this section was a case of agranulocytosis in an African woman, the condition having developed during a course of arsenical anti-syphilitic treatment. It terminated fatally.

In 21 cases the services of the Laboratory were used for medico-legal cases—41 exhibits of blood stains and 19 of seminal stains being examined.

153 specimens of tissues removed at surgical operations and 28 specimens for 16 autopsies were examined histologically. Included in this were 38 specimens of various malignant tissues.

RESEARCH

Two items of investigational work were done during the year.

The first was into the blood-group distribution of Africans of the Matabele nation. Of 167 samples of blood the distribution was Group A, 23·3%; B, 24·6%; AB, 3·6%; Group O, 48·5%. The investigation had later to be abandoned owing to difficulties experienced in ensuring accuracy regarding the racial origins of the individuals.

The second was in connection with the presence of *Vi* agglutinins. Over 500 sera were examined and the test proved extremely useful in the detection of carriers in two small epidemics of typhoid, in one of which a slightly aberrant strain of *B. typhosum* was traced to its origin entirely by this means.

ANNUAL REPORT OF THE GOVERNMENT ANALYST

NUMERICAL SUMMARY AND ANALYSIS OF WORK DONE

Total number of Samples and Exhibits dealt with .. 1,148

They comprised—

Exhibits in connection with Criminal Investigations:

Exhibits for presence of Poisons	241
Exhibits for presence of Blood Stains	52
Exhibits for presence of Seminal Stains	31
Miscellaneous Forensic Exhibits	31
	<hr/>
	355
	<hr/>

Samples of Water:

General Analysis for Hygienic and Utility Purposes ..	39
General Analysis for Purification, Plant Control ..	40
General Analysis of Township Supplies	13
Waters suspected of causing Sickness or Injury	16
In connection with Bilharzia Research	37
Swimming Bath Water	3
In connection with Army Filters	9
Boiler Feed	2
Corrosive or Ferruginous	10
Mineral Spring	1
	<hr/>
	170
	<hr/>

Customs Control:

French Brandies	..	..	..	..	..	..	57
Whiskies	..	..	..	..	..	..	24
Cheese	..	..	..	..	..	..	3
Condensed Milk	..	..	..	..	..	..	5
For Presence of Soap	..	..	..	..	..	..	1
Ciders (for alcohol content)	..	..	..	..	..	..	4
Other	..	..	..	..	..	..	6
							<hr/> 100 <hr/>
<i>Cow's Milk</i>	..	..	..	..	..	..	118
<i>Butters, Ice Cream, Cream and Cheese</i>	..	..	..	..	..	..	73
<i>Human Milk</i>	..	..	..	..	..	..	4
<i>Native Hop Beers</i>	..	..	..	..	..	..	124
<i>Kaffir Beers and other Intoxicants</i>	..	..	..	..	..	..	6
<i>Illicit Distilled Spirits (Kachasu)</i>	..	..	..	..	..	..	1
<i>Other Illicit Liquor (Skokiaan)</i>	..	..	..	..	..	..	7
<i>Disinfectants</i>	..	..	..	..	..	..	14
<i>Clinical Specimens</i>	..	..	..	..	..	..	27
<i>Maize and Mealie Meal</i>	..	..	..	..	..	..	77
<i>Miscellaneous</i>	..	..	..	..	..	..	72
Total							<hr/> 1,148 <hr/>

CRIMINAL INVESTIGATIONS

The 241 toxicological exhibits were submitted in connection with 70 cases, most of which concerned charges of murder or attempted murder by poisoning. Analysis yielded positive results in 34 cases, in most of which it also furnished cardinal evidence for the identification and conviction of the criminals. Arsenic and cyanide were again the favourites, the former being detected in ten, and the latter in 13 cases.

Amongst the other poisons found in various cases the more interesting were cantharides, carbon-monoxide, ergot, hyoscyamine, mercury, morphia, and opium. Though natives were concerned in the greater number of the cases, Europeans were involved in several of them. In one case an European layman was proved to be holding a store of powerful narcotics and abortifacients for anything but benevolent purposes; in another the death of an European child was shewn to be due to allowing the "stinkbaar" or "thorn-apple" weed to grow on the stand; and another case shewed the dangerous nature of sodium fluoride, which is often regarded as a harmless insecticide.

The 52 exhibits submitted for examination for blood stains were in connection with 20 cases, in 15 of which positives were established, in nearly all cases with regard to human blood, as evidence in charges of murder or attempted murder.

The 31 exhibits for seminal stains were submitted in connection with 19 cases, in seven of which positive evidence was obtainable. Europeans—some of them very young—were involved in several of these cases.

The *miscellaneous forensic cases* present an interesting assortment which, if space permitted, would be of considerable interest. They included—

Examination of registered envelopes from which large sums of money were missing in order to learn how and where they had been opened (if at all!), proof of

intent in arson charges, examination of stains made on clothing by firearms in order to establish the nature of powder and distance of firing, proof that a shoe left behind at the scene of murder belonged to a certain native (same hanged) because of the nature of certain stains upon it, the settlement of mining claim disputes by the (to some parties very embarrassing) restoration of the vanished inscriptions on old and faded documents, the identification of the nature and origin of certain hairs, etc., etc.

Altogether the year can be described as one of thoroughly keen and successful co-operation between the Laboratory and the Police organization, and the general satisfaction which is felt at the manner in which the Laboratory work is executed and recorded as evidence, is reflected in the fact that although we issue affidavits almost daily for use in the lower and higher courts sitting all over the territory, it is most rare for us to be put to the inconvenience, or the State to be put to the financial loss, which would be occasioned by our being subpoenaed in support of these reports.

WATER ANALYSIS

The Laboratory has continued to control the public supplies throughout the territory, as well as to give assistance to members of the public, to special bodies such as the Electricity Supply Commission, and from time to time neighbouring territories.

An enormous improvement in the operation of several Government plants serving the smaller communities (*e.g.*, at Plumtree, Gwanda, etc.) has been effected by sending the foremen to the Laboratory for intensive short courses in the principles and practice of water purification.

We have further demonstrated that with comparatively little trouble and expense swimming baths can be kept sweet and wholesome for very long periods, thus saving the expense of frequent refills and avoiding the unpleasantness and risks to health which occur when water starts to deteriorate.

When serious trouble is experienced with Government purification plant we release one of the staff to visit it and make a thorough investigation.

CUSTOMS CONTROL

This class of work has furnished the facts and figures necessary for fair classification and assessment and for the maintenance of prescribed standards of imports.

In several cases revenue was increased by proving that certain commodities, claimed to be non-dutiable, were actually of very definitely dutiable nature.

MILK

The necessity for vigilance in respect of this cardinal foodstuff is shewn by the fact that even in some of the centres where supervision has been exercised for a number of years about ten per cent. of the samples were found to be watered or skimmed. Prosecutions were instituted in eight cases, and in seven convictions were obtained.

Important progress is being made in the increase in the range of control. Hitherto it has been difficult to arrange regular sampling at places other than Bulawayo and Salisbury, but with the co-operation of the Dairy Officers of the Agricultural Department it is hoped that within a short time we shall have established a useful measure of sampling control at the smaller townships and villages.

GENERAL DAIRY PRODUCE

Analyses in this connection demonstrated that some produces were not complying with the law in respect of their butter and ice cream. One sample of the latter contained only 2·9% instead of the prescribed 10% of butter-fat. Appropriate measures have led to marked improvement.

NATIVE LIQUOR CONTROL

Hop Beer: Of the 124 samples analysed 118 were submitted by the Police, only ix being brought by native brewers under the arrangement by which we perform advisory analyses for a nominal fee.

Sixty-five of the samples submitted by the Police were found to be over-strength and in all cases our affidavits were the basis of conviction which resulted in fines totalling £575.

CLINICAL SPECIMENS

We continue to take over special work from the Public Health Laboratories at Bulawayo and Salisbury whenever requested to do so.

WAR WORK

The war has made a number of special demands which the following examples will illustrate:—

(1) *Poison Testing Outfit:* When war broke out it was thought that it might involve a quick-moving campaign in Africa and that in this Rhodesian troops might be exposed to the dangers of poisoned water supplies.

The Imperial Army has a standardized poison testing outfit but it did not appear to be well suited to our conditions and the Laboratory was requested to investigate the matter. As a result of a few days' work we were able to devise an outfit which is smaller, lighter, quicker and simpler to operate, and more definite in its indications than the War Office pattern. It has been found that laymen joining our Medical Units quickly master it and after a few lessons deal efficiently with test waters in which several poisons have been added together.

(2) *Ensuring Hygienic Water Supplies:* Experience has shewn the great importance of ensuring that troops in the field are supplied with disease-free water. When the troops are camping in fair numbers this can now be effected by the use of mechanical pressure filters. Several of these have been obtained for the Rhodesian forces and the laboratory was requested and was able to subject them to thorough tests and to work out and prescribe the proper procedure for obtaining satisfactorily purified water.

It is not so easy to protect men who may be away from the main body on reconnaissance duties for several days, but we have worked out a formula for a tablet which, when added to a soldier's water bottle and allowed to work for half an hour, is expected to precipitate the dirt and enable reasonably clear and quite safe water to be poured out.

(3) *Military Supplies:* The services of the Laboratory have been requested for and have been effective in ensuring a high standard in the supplies of important commodities at the best prices.

1. BILHARZIA INVESTIGATIONS

In these we have endeavoured to supply pertinent data to Dr. Mozley, the helminthological specialist of the Medical Research Unit. He is naturally interested to learn whether there is any particular correlation between the range and intensity of snail distribution and the varying nature of our streams and pools, and we are furnishing him with detailed studies of samples of water which he submits with this in view. So far we have done 37, and it is anticipated that appreciable demands in this direction will continue to be made.

We have also furnished reports upon the properties of various materials which are reported to be either repellant or toxic to snails. In these and similar directions we expect to be actively associated with Dr. Mozley for some time to come.

2. NUTRITION

Anti-Scorbutic Measures: In the arid areas the regular supply of adequate supplies of fresh foodstuffs presents considerable difficulties and it is therefore gratifying that local technicians and industrialists have devised a process for turning out a reasonably priced and conveniently packed and handled orange product which is very rich in Vitamin C. The Laboratory has been associated with this enterprise and by its analyses and suggestions has contributed to the production of a valuable specific.

NATIVE MEALIE MEAL

Although maize is such an important food for man and beast in Rhodesia it is surprising to find that very few analyses have been performed either upon Rhodesian maize or upon the meals prepared from it. The meals vary considerably in fineness and composition, and are commonly sold under empirical numbers (such as "No. 1," "No. 2," etc.) which, whilst having a degree of significance in the trade, denote no precisely defined character and may cover appreciably different products with different millers. Matters are complicated by the fact that in the milling of No. 1 a considerable amount of waste (bran, etc., known in the trade as "offal") is produced and that when the demand for miller's cattle food does not offer a profitable market for this it is not uncommon for it to be added to the lower grades of maize sold for native consumption.

Owing, however, to the high crude fibre (husk) content such meals are dark coloured and liable to cause gastric irritation. Partly to avoid trouble of this kind and partly because (like the European) he fancies a fine white product the native has tended to drift over to "No. 1," which not only costs him considerably more but lacks much of the valuable nutriment (oil, minerals, vitamins and protein) of the parent grain. In view of the narrow range of diets which many natives provide for themselves the tendency referred to cannot be commended.

In order to clear up the position and ensure supplies of straight run (entire) meal of good quality for the large contracts placed by the Government we performed a special series of investigations which have enabled us to lay down detailed specifications to which all meal must conform. The results have in the main been most gratifying in that it has been possible to get all Government natives (including hospital patients, etc.) back to straight run meal without appreciable discontent, thus effecting substantial saving to the Government, and at the same time providing the natives with a better ration.

This work has aroused considerable interest in neighbouring territories.

INDUSTRIAL ACTIVITIES

The desire to establish secondary industries, and to turn the country's resources to more profitable account, leads to us being increasingly consulted with regard to the scientific foundations and control of new ventures.

GENERAL NOTE

Owing to the increasing role which science is playing in natural life and policy the branch is regularly consulted by numbers of departments on the most varied subjects. As an example may be cited the growing extent to which our co-operation is being sought by the Tender Board.

In so brief a review it is impossible to convey an adequate conception of the work of the three officers who comprise the branch. In scope and amount that work continues to show a substantial increase and I have again pleasure in expressing my appreciation of the keen and efficient work of my assistants, Mr. W. H. Kitto and Mr. N. G. Shirley.

A. W. FACER,
Government Analyst.

CHAPTER V. ADMINISTRATIVE

(1) STAFF

1. <i>Medical Officers:</i>							
Headquarters (Medical Director 1, Assistant Health Officer 1, Field Officer 1, Schools Medical Officer 2							5
District (Senior Medical Officers 6, Medical Officers 23, Aided Medical Officers 10)							39
2. Radiologist .. .. .	..	..	..	..	..	..	1
3. Medical Superintendents, Special Hospitals .. .. .	..	..	..	..	..	..	4
4. Surgeon, Salisbury Hospital .. .. .	..	..	..	..	..	..	1
5. Directors of Laboratories .. .. .	..	..	..	..	..	..	2
6. Dentists .. .. .	..	..	..	..	..	..	3
7. Government Analyst .. .. .	..	..	..	..	..	..	1
8. Staff Matron .. .. .	..	..	..	..	..	..	1
9. General Nurses (Qualified, 165; Student, 120) .. .. .	..	..	..	..	..	..	285
10. Masseuses (1 whole-time, 1 part-time) .. .. .	..	..	..	..	..	..	2
11. Mental Nurses .. .. .	..	..	..	..	..	..	20
12. Other European Staff .. .. .	..	..	..	..	..	..	68
13. Asiatic and Native Staff .. .. .	..	..	..	..	..	..	639
Total							<u>1,071</u>

This list does not include various part-time officials, such as Ophthalmologists, Radiologist, Consulting Surgeons and relieving staff.

(2) SOUTHERN RHODESIA NURSING SERVICE

The following are the results of the examination held by the S.R. Medical Council in the Nurses' training schools at Salisbury and Bulawayo:—

					Number of Candidates	Number Successful	Number Unsuccessful
Preliminary Examination .. .. .	..	..	..	..	26	22	4
Final Examination .. .. .	..	..	..	..	18	18	—

Two nurses passed the final examination with honours in April, and two in October, the nurse securing top marks on each occasion being presented with a gold medal provided by local branches of the British Medical Association. Among those classified as unsuccessful in the preliminary examination are two who passed in some of the subjects.

During 1939 two matrons, three sisters and 24 staff nurses left the service to be married, only two of these did not take up residence in Southern Rhodesia.

All vacancies for student nurses were filled at the end of December, and there was a waiting list of 42 Rhodesian girls. Many of these girls were not yet 18 years of age, but entered their names in order to get a vacancy as soon after reaching 18 as possible.

No nurses for the General Nursing Service were recruited from England, all vacancies being filled by applicants from Rhodesia or the Union of South Africa.

The Lady Stanley District Nursing Service employs district nurses at Shamva, Gutu, Salisbury and Chipinga. The last two mentioned were appointed at the end of the year.

(3) MEDICAL COUNCIL

The numbers on the registers of the Council at the end of 1939 are given below. Not all those registered are resident in the Colony:—

	1939 Additions	31.12.39 Total
Medical Practitioners	23	209
Dental Surgeons	2	49
Chemists and Druggists	6	100
Trained Nurses (General)	34	348
„ „ (Mental)	1	13
„ „ (Sick Children)	2	2
Midwives	12	110
Masseurs and Masseuses	1	5
Native Medical Orderlies	9	11

(4) TRAINING OF NATIVE MEDICAL ORDERLIES

The following are the results of the examinations conducted by the Medical Council of Southern Rhodesia in the training schools of Salisbury and Bulawayo Hospitals:—

	Number of Candidates	Number Successful	Number Unsuccessful
Lower Examination	17	14	3
Higher Examination	10	10	—

One of the unsuccessful candidates in the Lower Examination satisfied the examiners in some of the subjects.

HABIT-FORMING DRUGS

Import Certificates: 116 permits were issued for the importation of the following drugs during 1939 as compared with 103 in 1938:—

Drug	1938 Grammes	1939 Grammes
Medicinal Opium	4,613·75	1,497
Opium (in tinctures, extracts and other preparations) ..	10,547·0	26,282·5
Indian Hemp (in form of galenical preparations) ..	395·0	45·3
Morphine Alkaloid	1,377·12	1,352·829
Diacetyl Morphine (Heroin)	76·0	188·35
Ethylmorphine (Dionin)	206·9	117·11
Cocaine	948·18	2,030·12
Methylmorphine (Codeine)	860·35	1,092·44
Eucodal (Dihydromorphine)	—	·71

Export Certificates: Twenty-two permits were issued for the exportation of the following drugs during 1939 as compared with 21 in 1938:—

Drug	1938 Grammes	1939 Grammes
Opium (in tinctures, extracts and other preparations) ..	503·1	623·44
Morphine Alkaloid	14·7	8·46
Diacetylmorphine (Heroin)	7·0	6·36
Ethylmorphine (Dionin)	3·2	6·27
Cocaine	32·7	337·25
Methylmorphine (Codeine)	58·8	103·41

RETURN OF PATIENTS TREATED IN GOVERNMENT HOSPITALS

Name of Hospital			PATIENTS IN HOSPITAL 31.12.38			TOTAL ADMISSIONS			TOTAL CASES TREATED			DEATHS		
			European	Native	V.D.	European	Native	V.D.	European	Native	V.D.	European	Native	V.D.
Salisbury	103	120	—	2,830	3,312	—	2,933	3,432	—
Bulawayo	87	151	4	2,741	4,762	303	2,828	4,913	4
Gwelo	12	61	43	609	1,199	507	621	1,260	10
Gatooma	16	106	106	814	1,641	751	830	1,747	8
Umtali	20	78	1	869	1,455	56	889	1,533	3
Gwanda	2	81	33	130	981	288	132	1,062	2
Fort Victoria	9	16	9	335	433	196	344	449	2
Enkeldoorn	5	29	9	144	568	136	149	597	3
Que Que	6	25	—	193	674	—	199	699	—
Bindura	5	27	—	131	446	—	136	473	—
Shamva	3	19	48	28	400	398	31	419	3
Sinoia	1	49	24	213	729	228	214	778	5
Rusape	2	21	15	112	430	136	114	451	1
Sub-Total	271	783	292	9,149	17,030	2,999	9,420	17,813	41
Ingutsheni	109	310	—	80	166	—	189	476	—
GRAND TOTAL	380	1,093	292	9,229	17,196	2,999	9,609	18,289	41

RETURN OF FREE PATIENTS MAINTAINED IN GOVERNMENT HOSPITALS

Name of Hospital	NO. OF FREE PATIENTS MAINTAINED			NO. OF FREE PATIENT UNITS		
	European	Coloured and Native	Total	European	Coloured and Native	Total
Salisbury	526	2,420	2,946	10,855	44,345	55,200
Bulawayo	456	3,109	3,565	11,969	55,165	67,134
Gwelo	177	1,405	1,582	4,294	32,048	36,342
Gatooma	99	2,597	2,696	1,655	20,705	22,360
Umtali	126	1,311	1,437	2,083	25,318	27,401
Gwanda	10	413	423	178	7,174	7,352
Fort Victoria	49	606	655	351	7,807	8,158
Enkeldoorn	45	724	769	1,601	15,543	17,144
Que Que	33	407	440	342	8,030	8,372
Bindura	12	239	251	205	7,271	7,476
Shamva	8	379	387	52	4,767	4,819
Sinoia	20	344	364	153	6,313	6,466
Rusape	51	412	463	400	10,543	10,943
Sub-Total	1,612	14,366	15,978	34,138	245,029	279,167
Ingutsheni Mental Hospital	116	418	534	26,610	100,415	127,025
GRAND TOTAL	1,728	14,784	16,512	60,748	345,444	406,192

OUTPATIENT ATTENDANCES AT GOVERNMENT HOSPITALS, 1939

Hospital							European	Native
SALISBURY .. .. .	..	..	..	..	..	..	5,635	23,086
BULAWAYO .. .. .	..	..	..	..	..	..	6,938	16,823
GWELO .. .. .	..	..	..	..	..	..	2,097	3,470
GATOOMA .. .. .	..	..	..	..	..	..	992	4,740
UMTALI .. .. .	..	..	..	..	..	..	456	5,709
GWANDA .. .. .	..	..	..	..	..	..	95	127
FORT VICTORIA .. .. .	..	..	..	..	..	..	1,217	1,656
ENKELDOORN .. .. .	..	..	..	..	..	..	176	806
QUE QUE .. .. .	..	..	..	..	..	..	39	385
BINDURA .. .. .	..	..	..	..	..	..	223	576
SINOIA .. .. .	..	..	..	..	..	..	253	1,827
SHAMVA .. .. .	..	..	..	..	..	..	103	8
RUSAPI .. .. .	..	..	..	..	..	..	153	412
Total .. .. .	..	..	..	..	..	..	<u>18,377</u>	<u>59,625</u>

VENEREAL DISEASE

Hospital					Units	NUMBER OF CASES	
					Maintained	Inpatients	Outpatients
SALISBURY .. .. .	..	..	..	..	—	—	—
BULAWAYO .. .. .	..	..	..	..	986	374	315
GWELO .. .. .	..	..	..	..	12,537	550	—
GATOOMA .. .. .	..	..	..	..	38,958	751	24
UMTALI .. .. .	..	..	..	..	649	57	338
GWANDA .. .. .	..	..	..	..	10,744	288	—
FORT VICTORIA .. .. .	..	..	..	..	7,378	196	1,885
ENKELDOORN .. .. .	..	..	..	..	4,056	136	1,879
							(treatments)
QUE QUE .. .. .	..	..	..	..	—	—	—
BINDURA .. .. .	..	..	..	..	—	—	—
SHAMVA .. .. .	..	..	..	..	17,425	—	—
SINOIA .. .. .	..	..	..	..	9,552	252	—
RUSAPI .. .. .	..	..	..	..	5,627	136	9
Total .. .. .	..	..	..	..	<u>107,912</u>	<u>2,740</u>	<u>4,450</u>

TABLE SHEWING PATIENTS TREATED IN NATIVE DISPENSARIES AND CLINICS

Native Clinic	NUMBER ADMITTED TO HOSPITAL			INPATIENT UNITS MAINTAINED			DEATHS			OUTPATIENTS			TREATMENTS		
	V.D.	Other	Total	V.D.	Other	Total	V.D.	Other	Total	V.D.	Other	Total	V.D.	Other	Total
Ndanga	757	1,347	2,104	23,275	45,062	68,337	16	40	56	59	174	233			
“A” Dispensary	190	569	759	9,984	29,950	39,934	—	2	2	484	1,452	1,936			
“B”	245	736	981	9,223	27,668	36,891	—	9	9	159	476	635			
“C”	285	850	1,135	9,891	29,670	39,561	—	9	9	507	1,518	2,025			
Bikita	213	630	843	6,900	20,700	27,600	—	14	14	346	1,038	1,384			
Chichidza	209	627	836	8,285	24,854	33,139	—	5	5	125	372	497			
Matibi	135	402	537	4,353	13,059	17,412	—	4	4	243	727	970			
Gutu	408	1,221	1,629	7,664	22,992	30,656	—	12	12	483	1,446	1,929			
Chingombe	222	666	888	5,681	17,040	22,721	—	15	15	140	418	558			
“G” Dispensary	262	786	1,048	8,662	25,983	34,645	—	13	13	305	913	1,218			
Total: Ndanga Unit	2,926	7,834	10,760	93,918	256,978	350,896	16	123	139	2,851	8,534	11,385			
Chilimanzi	193	164	357	7,838	5,315	13,153	1	5	6	18	767	785	521	7,925	8,446
Chipinga	70	349	419	1,592	3,278	4,870	—	5	5	155	1,231	1,386	225	1,585	1,810
Concession	266	550	816	17,038	17,783	34,821	5	56	61	14	449	463	116	1,346	1,462
Gokwe	40	103	143	1,639	2,673	4,312	—	2	2	—	1,097	1,097	—	2,042	2,042
Hartley	181	479	660	10,860	6,706	17,566	5	30	35	—	198	198	—	198	198
Inyanga	17	166	183	360	5,011	5,371	1	6	7	248	1,806	2,054	236	1,678	1,914
Inyati	232	302	534	—	12,834	12,834	3	13	16	486	674	1,160	—	—	—
Jena	126	190	316	—	4,681	4,681	—	8	8	216	2,151	2,367	—	13,688	13,688
Kezi	11	490	501	—	52	52	—	—	—	11	484	495	19	928	947
Kutama	190	360	550	7,980	2,520	10,500	1	14	15	120	7,609	7,729	—	30,916	30,916
Makumbi	118	737	855	2,062	11,862	13,924	—	17	17	261	3,267	3,528	2,786	10,692	13,478
Marandellas	690	381	1,071	28,400	5,344	33,744	6	16	22	—	1,084	1,084	—	3,226	3,226
Mtoko	115	597	712	2,078	11,536	13,614	2	28	30	—	—	—	1,494	13,324	14,818
Miami	37	128	165	1,572	3,365	4,937	—	2	2	15	585	600	81	1,058	1,139
Mt. Darwin	51	1,033	1,084	1,458	8,079	9,537	2	5	7	9	478	487	194	2,273	2,467

CLASSIFICATION OF DEATHS (EUROPEAN), 1939

Classified according to the International Classification of Causes of Sickness and Deaths.

I. INFECTIOUS AND PARASITIC DISEASES

Classification No.	Disease	No. of Deaths
1	Typhoid Fever	5
7	Measles	2
9	Whooping Cough	2
10	Diphtheria	4
11	Influenza	8
13	Dysentery	3
16	Acute Poliomyelitis	1
18	Cerebro-spinal Fever	2
23	Tuberculosis of the Respiratory System	11
24	Tuberculosis of the Central Nervous System	1
26	Tuberculosis of the Vertebral Column	1
36	Purulent Infection, Septicaemia	3
38	Malaria	49
42	Other Disease due to Helminths (Ascaris Infestation)	1
44:6	Blackwater Fever	17

II. CANCER AND OTHER TUMOURS

45	Cancer of the Buccal Cavity and Pharynx	2
46	Cancer of the Digestive Organs and Peritoneum	35
47	Cancer of the Respiratory Organs	5
48	Cancer of the Uterus	6
49	Cancer of other Female Genital Organs	2
50	Cancer of the Breast	8
51	Cancer of the Male Genito-urinary Organs	8
52	Cancer of the Skin	1
53	Cancer of other or Unspecified Organs	4
54	Non-malignant Tumours	1

III. RHEUMATISM, DISEASES OF NUTRITION AND OF ENDOCRINE GLANDS, AND OTHER GENERAL DISEASES

56	Rheumatic Fever	2
57	Chronic Rheumatism, Osteo-arthritis	3
59	Diabetes	11
67	Diseases of the Thymus	2
69	Other General Diseases	3

IV. DISEASES OF THE BLOOD AND BLOOD-FORMING ORGANS

71	Anaemia, Chlorosis	2
72	Leukaemia, Aleukaemia	4

V. CHRONIC POISONING

75	Alcoholism (Acute or Chronic)	1
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VI. DISEASES OF THE NERVOUS SYSTEM AND SPECIAL SENSE ORGANS

78	Encephalitis	3
79	Meningitis	1
81	Other Diseases of the Spinal Cord	2
82	Cerebral Haemorrhage, Apoplexy, etc.	25
83	General Paralysis of the Insane	2
84	Other Forms of Insanity	2
85	Epilepsy	1
87	Other Diseases of the Nervous System	5
89	Diseases of the Ear and Mastoid Sinus	1

VII. DISEASES OF THE CIRCULATORY SYSTEM

90	Pericarditis	1
91	Acute Endocarditis	2
92	Chronic Endocarditis, Valvular Disease	16
92	Diseases of the Myocardium	42
94	Diseases of the Coronary Arteries, Angina Pectoris	14
95	Other Diseases of the Heart	12
96	Aneurysm	2
97	Arterio-sclerosis	13
102	Abnormalities of Blood Pressure	8

VIII. DISEASES OF THE RESPIRATORY SYSTEM

105	Diseases of the Larynx	1
106	Bronchitis	4
107	Broncho-pneumonia	12
108	Lobar Pneumonia	7
109	Pneumonia (not otherwise defined)	4
111	Congestion and Haemorrhagic Infarct of Lung	4
112	Asthma	3
114	Other Diseases of the Respiratory System	3

IX. DISEASES OF THE DIGESTIVE SYSTEM

Classification No.	Disease	No. of Deaths
115	Diseases of the Buccal Cavity, Pharynx, etc.	5
117	Ulcer of the Stomach or duodenum	2
118	Other Diseases of the Stomach	2
119 & 120	Diarrhoea and Enteritis	9
121	Appendicitis	8
122	Hernia, Intestinal Obstruction	6
124	Cirrhosis of the Liver	4
125	Other Diseases of the Liver	2
126	Biliary Calculi	3
127	Other Diseases of the Gall Bladder and Ducts	2
129	Peritonitis, without stated cause	1

X. NON-VENEREAL DISEASES OF THE GENITO-URINARY SYSTEM AND ANNEXA

130	Acute Nephritis	1
131	Chronic Nephritis	15
132	Nephritis, not stated to be Acute or Chronic	2
133	Other Diseases of the Kidney and Annexa	1
134	Calculi of the Urinary Passages	1
135	Diseases of the Bladder	1
136	Diseases of the Urethra, Urinary Abscess, etc.	1
137	Diseases of the Prostate	6
139	Diseases of the Female Genital Organs	1

XI. DISEASES OF PREGNANCY, CHILDBIRTH AND THE PUERPERAL STATE

145	Puerperal Sepsis not returned as Post-abortion	2
146	Puerperal Albuminuria and Convulsions	1

XII. DISEASES OF THE SKIN AND CELLULAR TISSUE

151	Carbuncle, Boil	2
152	Cellulitis, Acute Abscess	1

XIV. CONGENITAL MALFORMATIONS

157	Congenital Malformations	3
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XV. DISEASES OF EARLY INFANCY

158	Congenital Debility	1
159	Premature Birth	17
160	Injury at Birth	1
161	Other Diseases Peculiar to Early Infancy	11

XVI. OLD AGE

162	Old Age	14
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XVII. DEATHS FROM VIOLENCE

163	Suicide by Solid or Liquid Poisons and Corrosive Substances	9
164	Suicide by Poisonous Gas	2
165	Suicide by Hanging or Strangulation	1
167	Suicide by Firearms	12
173	Homicide by Firearms	3
175	Homicide by other means	1
181	Accidental Burns (Conflagration excepted)	1
183	Accidental Drowning	2
184	Accidental Injury by Firearms	5
186	Accidental Injury by Fall, Crushing, etc.	15
193	Electricity (Lightning excepted)	3
194	Other and Unstated Forms of Accidental Violence	6
200	Cause of Death Unstated or Ill-defined	11
Total		<u>597</u>

Details of Deaths classified under Nos. 186 and 194 of the International List

186	<i>Accidental Injury by Fall, Crushing, etc.:</i>	
	Motor Accidents	5
	Mining Accidents	2
	Aeroplane Crash	1
	Fracture Due to Fall	1
	Accidental Fall	1
	Fall Down Waterfall	1
	Fall Down Cliff	1
	Struck on Head by Heavy Machinery	1
	Fall Beneath Dislodged Flower-pot	1
	Fall from Railway Bridge	1
194	<i>Other and Unstated Forms of Accidental Violence:</i>	
	Fractured Hip	1
	Fractured Femur and Humerus	1
	Injury to Side	1
	Sepsis following Injury received in Accident	2
	Fractured Skull	1

MONTHLY ADMISSIONS TO HOSPITALS—SUMMARY

Patients	January	February	March	April	May	June	July	August	September	October	November	December	Total
Europeans	818	732	868	875	984	693	1,173	679	711	772	668	706	9,679
Native—Other than V.D...	1,343	1,285	1,531	1,434	1,535	1,373	1,318	1,533	1,354	1,568	1,427	1,309	17,010
Native—V.D.	300	268	332	293	333	279	290	298	338	373	307	297	3,708
Total	2,461	2,285	2,731	2,602	2,852	2,345	2,781	2,510	2,403	2,713	2,402	2,312	30,397

MONTHLY ADMISSIONS OF EUROPEAN PATIENTS TO GOVERNMENT HOSPITALS

Name of Hospital	January	February	March	April	May	June	July	August	September	October	November	December	Total
Enkeldoorn	16	13	13	12	22	11	8	5	11	16	9	8	144
Fort Victoria	21	35	40	36	47	24	27	23	25	18	23	16	335
Bindura	12	8	20	21	34	9	7	7	12	9	12	12	163
Gwanda	23	9	15	10	18	3	5	9	13	7	9	7	128
Umtali	86	72	71	92	75	72	55	67	71	84	59	65	869
Sinoia	19	10	17	27	28	31	11	11	15	11	14	19	213
Salisbury	242	221	258	235	271	222	226	208	226	246	240	235	2,830
Shamva	8	2	—	1	7	4	2	2	—	1	1	—	28
Que Que	13	11	18	16	20	15	15	13	19	25	14	14	193
Gwelo	47	42	56	76	88	27	58	52	41	42	38	42	609
Gatooma	84	92	97	92	109	59	50	50	42	45	53	41	814
Bulawayo	238	210	256	245	258	209	700	223	228	254	182	238	3,241
Rusapi	9	7	7	12	7	7	9	9	8	14	14	9	112
Total	818	732	868	875	984	693	1,173	679	711	772	668	706	9,679

MONTHLY ADMISSIONS OF NATIVE CASES (OTHER THAN VENEREAL DISEASE) TO GOVERNMENT HOSPITALS

Name of Hospital	January	February	March	April	May	June	July	August	September	October	November	December	Total
Enkeldoorn	40	45	45	52	41	61	53	51	46	61	43	29	567
Fort Victoria	45	49	28	40	36	37	24	34	43	43	24	30	433
Bindura	40	42	47	40	57	41	42	36	47	52	34	40	518
Gwanda	71	64	76	76	80	68	65	87	55	83	73	92	890
Umtali	128	94	118	124	122	125	92	132	115	150	146	109	1,455
Sinoia	68	52	78	68	60	62	64	68	52	63	41	53	729
Salisbury	231	264	315	286	334	293	283	291	245	285	250	235	3,312
Shamva	38	41	41	38	34	21	29	35	29	37	27	30	400
Que Que	38	47	62	51	48	60	33	62	73	71	75	54	674
Gwelo	111	97	139	89	92	96	65	107	98	113	90	102	1,199
Gatooma	112	157	169	157	177	106	135	137	128	135	120	108	1,641
Bulawayo	393	289	385	385	429	374	413	464	372	433	438	387	4,762
Rusape	28	44	28	28	25	29	20	29	51	42	66	40	430
Total	1,343	1,285	1,531	1,434	1,535	1,373	1,318	1,533	1,354	1,568	1,427	1,309	17,010

MONTHLY ADMISSIONS OF NATIVE CASES OF VENEREAL DISEASE TO GOVERNMENT HOSPITALS

Name of Hospital	January	February	March	April	May	June	July	August	September	October	November	December	Total
Enkeldoorn ..	3	6	11	7	13	15	15	10	12	12	9	23	136
Fort Victoria ..	12	12	28	15	25	13	17	16	14	14	15	15	196
Bindura ..	52	50	67	61	91	50	49	43	59	61	46	52	681
Gwanda ..	28	20	24	22	24	27	28	24	20	25	28	20	290
Umtali ..	1	1	1	8	4	5	4	5	8	7	8	4	56
Sinoia ..	21	16	25	25	14	16	24	20	9	17	23	18	228
Salisbury ..	—	—	—	—	—	—	—	—	—	—	—	—	51
Shamva ..	29	43	27	28	30	22	31	31	41	52	38	26	398
Que Que ..	—	—	—	—	—	—	—	—	—	—	—	—	—
Gwelo ..	61	27	33	28	30	44	40	57	66	63	36	42	527
Gatooma ..	60	46	77	64	57	57	60	66	74	80	61	55	757
Bulawayo ..	28	30	25	25	29	25	22	21	22	30	22	24	303
Rusapi ..	5	17	14	10	16	5	—	5	13	12	21	18	136
Total ..	300	268	332	293	333	279	290	298	338	373	307	297	3,708

TABLE SHEWING NUMBER OF INPATIENTS AND OUTPATIENTS TREATED AT MEDICAL MISSIONS, TOGETHER WITH NUMBER OF UNITS MAINTAINED, DEATHS AND TREATMENTS, BOTH V.D. AND GENERAL, DURING THE YEAR 1939

Missions	ADMISSIONS			INPATIENT UNITS			DEATHS			OUTPATIENTS			OUTPATIENT TREATMENT		
	V.D.	Other	Total	V.D.	Other	Total	V.D.	Other	Total	V.D.	Other	Total	V.D.	Other	Total
Mt. Silinda	147	946	1,093	2,593	15,469	18,062	2	21	23	62	2,264	2,326	330	5,740	6,070
Chikore	19	407	426	378	2,328	2,706	1	8	9	22	1,618	1,640	30	3,141	3,171
Gutu	31	160	191	1,200	2,050	3,250	—	2	2	217	2,655	2,872	764	8,261	9,025
Mnene	711	913	1,624	22,692	28,713	51,405	4	27	31	91	558	649	546	2,066	2,612
Masase	679	361	1,040	19,546	8,040	27,586	8	16	24	124	322	446	2,271	3,561	5,832
Old Umtali	204	815	1,019	6,420	9,656	16,076	—	4	4	108	4,030	4,138	1,305	18,960	20,265
Howard Training Institute	2	107	109	21	1,208	1,229	—	8	8	250	1,382	1,632	170	15,047	15,217
Driefontein	3	176	179	94	1,918	2,012	—	10	10	6	2,210	2,216	80	7,115	7,195
Empandeni	22	186	208	157	1,085	1,242	—	2	2	20	1,174	1,194	154	7,796	7,950
Mtshabezi	65	397	462	1,067	8,755	9,822	—	5	5	475	1,226	1,701	1,067	3,392	4,459
Waddilove	3	464	467	126	4,705	4,831	—	7	7	18	2,870	2,888	108	9,346	9,454
Mtobo Training Institute	3	20	23	12	98	110	1	2	3	239	4,000	4,239	956	4,000	4,956
St. David's	18	169	187	369	2,629	2,998	1	3	4	97	734	831	861	4,377	5,238
Rositu	3	133	136	59	1,257	1,316	—	1	1	3	1,052	1,055	14	4,891	4,905
Solusi	—	—	—	—	—	—	—	—	—	400	1,370	1,770	1,335	9,843	11,178
St. Patrick's	—	14	14	—	69	69	—	—	—	96	960	1,056	504	1,491	1,995
	—	44	44	—	308	308	—	—	—	60	2,471	2,531	400	3,030	3,430

Fairfield School	..	6	36	42	116	268	384	3	2	5	—	125	125	—	1,596
Monte Casino	..	32	512	544	225	4,287	4,512	1	3	4	—	567	567	—	1,414
Epworth	..	—	—	—	—	—	—	—	—	—	—	760	760	—	2,302
Kwenda	..	—	—	—	—	—	—	—	—	—	—	1,224	1,224	—	3,423
Zambesi Industrial	..	—	—	—	—	—	—	—	—	—	—	509	509	—	1,579
Total	..	1,948	5,860	7,808	55,075	92,843	147,918	21	121	142	2,288	34,081	36,369	10,895	133,266
St. Alban's	..	—	—	167	—	—	858	—	—	1	—	—	2,443	—	8,377
Tegwani Institute	..	—	—	70	—	—	420	—	—	—	—	—	661	—	4,283
St. Barbara's	..	—	—	170	—	—	2,355	—	—	2	—	—	1,144	—	10,246
All Soul's	..	—	—	4,430	—	—	885	—	—	—	—	—	3,545	—	5,136
Triashill	..	—	—	398	—	—	4,019	—	—	4	—	—	2,287	—	6,811
Nyadiri	..	—	—	1,701	—	—	15,076	—	—	16	—	—	2,356	—	29,699
Morgenster	..	—	—	442	—	—	5,595	—	—	34	—	—	5,837	—	34,014
Mutambara	..	—	—	798	—	—	6,792	—	—	13	—	—	9,690	—	19,200
Mbembezwana	..	—	—	3	—	—	—	—	—	—	—	—	—	—	3,241
St. Mary's, Hunyani	..	—	—	—	—	—	—	Not available	—	—	—	—	—	—	—
Lower Gwelo	..	—	—	—	—	—	—	Nil	—	—	—	—	—	—	—
Total	..	—	—	8,179	—	—	36,000	—	—	70	—	—	25,963	—	121,007

